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ABSTRACT

This literature review is part of a multiyear evaluation of the Higher Education Act's Title II programs to recruit teachers. It is intended to help the U.S. Department of Education focus on key research questions that provide the background for the evaluation, as well as supply a reference tool for administrators and grantees of these teacher-recruitment programs. The text is divided into eight chapters. Chapter 1 introduces the purpose, scope, and organization of the review and provides an overview of teacher supply and demand. Chapter 2 examines various aspects of teacher-recruitment programs, such as sources of newly hired teachers and teacher recruitment for higher education. Chapter 3 highlights state and local efforts in teacher recruitment, paying attention to intermediate and longer term outcomes. The next chapter discusses effective elements of state recruitment efforts and the roles played by leadership and partnership, support services, and teacher-induction practices. Chapter 5 offers a local perspective of teacher recruitment, which is followed by an analysis of effective elements of local recruitment programs. Chapter 7 highlights the implications for evaluation of recruitment programs, and chapter 8 describes ways to meet the need for teachers. Two appendices list Internet resources and outcome data and program effectiveness. (Contains 94 references.) (RJM)

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Literature Review on Teacher Recruitment Programs

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2000

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Chapter 1: Introduction

The prospect of a teacher shortage of large proportions has received increasing attention from national, state, and local policymakers in recent years. Demographics of the teaching population, student enrollments, and state mandates to reduce class size and increase instruction time have challenged state and local education authorities to ensure that well-qualified, properly credentialed educators are available in every classroom. The concern will not likely abate in the near future, because the pressures that strain local supply and demand of teachers will increase as a large proportion of the current teaching force ages and retires in the first few decades of the twenty-first century.

States and localities have a range of options in addressing teacher shortages, among them programmatic and policy alternatives which are included under the broad heading "teacher recruitment programs." The efficiency and effectiveness of teacher recruitment programs enacted at state and local levels will determine whether the nation's pressing need for qualified teachers in critical geographic areas and subject areas is met. That success depends on identifying and tapping into sources of potential teachers, identifying critical outcomes for recruitment programs, and implementing interventions designed to meet those specific goals. Data collection to measure the effectiveness with which the goals are met will also be important in determining whether policies and programs work.

Purpose, Scope, and Organization of the Literature Review

This literature review is part of a multi-year evaluation of the Higher Education Act's Title II programs to recruit teachers. This synthesis will help the U.S. Department of Education focus on the key research questions that provide the background for the evaluation. The second purpose of the review is to create a reference tool for administrators and grantees of the Title II teacher recruitment programs.[1] By highlighting the strengths of similar programs, the literature review will provide examples of effective models, strategies, and policies.

In the course of the review the electronic archives of the Educational Resources Information Center (ERIC) and Social Science Abstract were searched for relevant literature published between 1989-1999. Search topics included "teacher shortage," "teacher recruitment," and "teacher supply and demand." An Internet search on the same topics was conducted, and data from the U. S. Department of Education, the National Center for Education Statistics, and the National Center for Education Information was collected. As a result of this process, the authors obtained and reviewed approximately 228 books, chapters, published articles and unpublished manuscripts.

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[1] See Appendix A for a list of Internet resources that may also be useful to Title II Teacher Recruitment program administrators and grantees.

Failing to locate more than a few evaluations of teacher recruitment programs through this method, staff at the Urban Institute contacted several researchers and centers on research on teacher education to identify sources of information on teacher recruitment programs, especially evaluations of programs. This additional search turned up a number of unpublished evaluation reports as well as reports and manuscripts in preparation or draft form on teacher recruitment.[2]

To be included in the review, each of the evaluations had to include at least minimal information about the type of program, project goals and intended outcomes, data collection methods, and analytic techniques. Information about outcomes, data systems, and evaluation methods were extracted from each of the eight evaluations that were identified for review. Not all of the programs had discrete evaluation documents. In some cases, evaluation information was gleaned from other, more descriptive documents, sometimes from multiple sources. Table 4 describes the evaluations of state recruitment programs.

This report begins with background information about teacher supply and demand from 1980 to the present. The portions of the Higher Education Amendments of 1998 (P.L. 105-244) pertaining to teacher recruitment are summarized to lend current context to the review. Subsequent sections address state recruitment programs and local recruitment programs, focusing on intermediate and long-term outcomes, data systems used by programs, and program evaluation methods. From all the literature reviewed, a collection of 19 program evaluations were identified (eight of state programs, 11 of local programs).

From these evaluations we synthesize information about effective recruitment strategies, including program recruitment and selection strategies, support services, preservice education, teacher induction practices, and dissemination and institutionalization practices. Based on this extensive compilation of information about the practices of state and local programs, we compare the two kinds of programs. Implications for the evaluation of state and local programs are presented, concentrating on the quality of available research and data, key issues to address in evaluating recruitment efforts, and recommendations to the Department of Education's Planning and Evaluation Service (PES). The final section of the review addresses the implications of the review findings in meeting the need for teachers.

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[2]Conversations with researchers working in the area of teacher recruitment and supply and demand confirmed that there were few credible evaluations of programs available to the public. The number of reports in manuscript, draft form, or in progress on the topic of teacher recruitment lead the authors to believe that the coming months will see the emergence of a plethora of literature on this subject. For example, NPEAT is preparing a paper on the recruitment of minority teachers, and the Education Commission of the States is preparing descriptions of teacher recruitment activities in selected states. The Quality of Education issue of *Education Week*, published January 13, 2000 focuses on state teacher recruitment efforts.

Teacher Supply and Demand: A Brief Overview

It is difficult to discuss teacher recruitment without considering issues of the supply and demand. How many teachers are needed for the nation's classrooms and where they will come from are questions that are closely related. Additionally, the issue of teacher quality is inextricably linked to recruitment, for in recruiting teachers we wish to attract individuals who are well-prepared, effective, and who will remain in the teaching profession long enough to make a difference.

Teacher demand is determined by the number of teaching positions funded by local education agencies (LEAs). The main factors affecting this demand in a given year are the number of students enrolled in public schools, policies relating to teacher-pupil ratios and curriculum, the number of teachers currently employed, the funding capacity of LEAs, teacher salaries, and teacher turnover. Notions of aggregate demand, however, are not sufficient to describe the dynamics of teacher demand or to design policies to ensure an adequate supply of teachers. To understand this situation, total demand must be broken down by teaching assignment, geographic distribution of teaching positions, and other factors (Boe and Gilford, 1991; Darling-Hammond, Berry, Haselkorn, and Fideler, 1999).

Teacher supply can be defined as the number of eligible individuals available from all sources who are willing to supply their services. The main factors in determining the availability of qualified individuals willing to teach are the availability of teaching positions relative to positions in other occupations, teacher salaries relative to those in competing occupations, and working conditions in teaching compared to conditions in other occupations. As with aggregate data on teacher demand, aggregate information about the size of the teaching work force is not useful in understanding issues of teacher supply. Information is also needed about various sources of supply of potential teachers as well as about the composition and distribution of the teaching force (Boe and Gilford, 1991). This type of information could then be compared to information about teacher demand in order to estimate the degree to which demand is being met by qualified individuals and to determine the sources of teachers that might be manipulated by policy to provide a more adequate supply. Darling-Hammond and her colleagues (1999) point out that the issue of supply in teaching "is not one of bodies, since most states are willing to lower standards to fill classrooms, but one of quality" (p. 187).

Recent Trends in Teacher Supply and Demand

In recent decades, there has been little or no shortage of teachers available to fill open positions at the national level; in fact, the supply of teachers has exceeded demand (Boe and Gilford, 1991; Rollefson, 1992). Contrary to expectations in the 1980s and 1990s, a predicted shortfall in the teaching force did not materialize due to lower than anticipated attrition rates, slower retirement rates, and other factors. In the early 1980s attrition rates for public school teachers had been estimated at 8 percent but were actually much lower. For example, the annual teacher attrition from 1987-88 to 1988-89 was 5.6 percent for the nation (Whitener, et al., 1997). And although the average age of the

teaching force has been gradually increasing, more teachers are retiring at a later age. This slower retirement rate has, in addition to other factors, slowed the demand for new teachers. As a consequence, the National Research Council predicts that large numbers of teachers will retire during the 2000-2010 period rather than during the 1990s (Boe and Gilford, 1991).

These aggregate figures on teacher supply and demand, however, mask problems of distribution and composition in the teaching force that are highlighted by the disaggregated data. For example, there are shortages of teachers in certain areas, such as poor, urban, and high minority enrollment schools (Ingersoll and Bobbitt, 1995; Eubanks, 1996) and in subjects such as mathematics and science (Gilford and Tenenbaum, 1990; Carnegie Forum on Education and the Economy, 1986) and in teaching fields such as bilingual and special education (Schmidt, 1992). Reasons for these shortages range from higher turnover rates and reluctance of teachers to take jobs in poor, inner city schools to low numbers of teachers being produced in specific specialty areas (Jones and Sandidge, 1997; Adams and Dial, 1993; Ingersoll, 1999).

Then, there is the issue of the demographic composition of the teaching pool. Currently, the great majority of teachers come from the lower middle class and are female and white, while their students have become increasingly diverse (Zimpher, 1989).[3] In fact, the Commerce Department predicts that by the year 2035 students of color in K-12 classrooms will constitute a numerical majority of all students (U.S. Department of Commerce, 1996). While evidence that teachers' demographic characteristics influence student achievement is inconclusive (Ehrenberg and Brewer, 1995; Ehrenberg, Goldhaber, and Brewer, 1995), advocates of diversifying the teaching force have presented compelling arguments in favor of increasing the number of male teachers and teachers of color (Clewell and Villegas, 1998 or see Villegas, 1997 for a review of this literature).[4] The problem of teacher shortages, viewed from this angle, can be seen in terms of inadequacies in the qualifications and characteristics of the teaching force rather than in its absolute size in relation to gross demand (Boe and Gilford, 1991).

Recent data seem to confirm that the large shortfall in the teacher supply expected in the 1990s will materialize in the next decade. A report that examines the need for newly hired teachers for the period from 1998-99 to 2008-09 predicts that at least two million newly hired public school teachers will be needed. The report was not able to project the need for new teachers by state but suggests that states that are expected to

[3] For example, 87.3 percent of teachers are white and 73 percent are female (NCES, 1997).

[4] Proponents of diversifying the teaching force have argued that the absence of teachers of color deprives all students of role models (Cole, 1986; Graham, 1987; Mercer and Mercer, 1986). Pedagogical arguments have also been cited to the effect that minority teachers' attitudes, expectations, placement of students and feedback (both positive and negative) can improve the academic achievement of racial/ethnic minority students (Irvine, 1988; also, see King, 1993, for a review of this literature). Recent studies that draw on constructivist approaches to instruction have highlighted the necessity for teachers to build bridges between the backgrounds of their students and the contexts in which they learn. Because teachers of color tend to be knowledgeable about the experiences of students of color, they can build bridges between home and school for this population (Villegas, 1997). Moreover, teachers of color are more likely to be willing to work in urban setting and to remain in urban schools than their White counterparts (Adams and Dial, 1993; Howey and Zimpher, 1996; Natriello and Zumwalt, 1993; Stoddart, 1993).

have large increases in enrollment. Those states with large numbers of older teachers might have a greater need for hiring new teachers. The authors caution, however, that factors such as varying retirement policies and proximity to other states needing large numbers of teachers will also affect states' demands for newly hired teachers (Hussar, undated).

Meeting the Need for New Teachers: Policy Options

Faced with the need for a large number of teachers within a short period of time, the federal government, states, and districts can respond via various policy options. They can increase continuation rates through incentives to keep teachers employed beyond the typical retirement age and combat attrition by improving working conditions and increasing salaries and other benefits. They can also bring new individuals into the teaching force by traditional means or by tapping nontraditional pools of potential teachers. Because the subject of this report is teacher recruitment programs, the authors will focus on one of these policy options—teacher recruitment—as a strategy for addressing the current and impending teacher shortage.

Chapter 2: Teacher Recruitment Programs

Much of the success of a recruitment strategy depends on the availability in the traditional and nontraditional pools of individuals who 1) are willing to become teachers and 2) have the potential to be effective teachers.[5] In considering this issue, it is instructive to examine the major sources of teacher supply and how these have changed over time. It is also useful to look at the career pathways into teaching of newly hired teachers.

Sources of Newly Hired Teachers

Researchers who study teacher supply cite four general sources of newly hired teachers: 1) Newly prepared teachers—first-time teachers who go straight from college into teaching; 2) Delayed entrants—other first-time teachers who engage in other activities between graduating from college and assuming their first teaching job; 3) Transfers—teachers who transfer from other schools, districts, states, or sector (public or private); and 4) Reentrants—former teachers reentering teaching after leaving the profession (Rollefson and Broughman, 1995).

Over the years there have been shifts in the source of the largest number of newly hired teachers. In the 1960s, for example, 67 percent of newly hired teachers in public schools were new college graduates. By the late 1980s, this source supplied only 27 percent of new hires (National Education Association, 1987 cited in Rollefson and Broughman, 1995). Indeed, the numbers of newly graduated teachers began to fall below the projected demand for new hires in the 1980s. As a result, increasing numbers of teachers were hired from the reserve pool of former teachers (Kirby, Grissmer, and Hudson, 1991; Murnane, Singer, and Willet, 1988). Between 1988 and 1991, however, the sources of newly hired teachers shifted, with both public and private schools hiring fewer reentrants and more first-time teachers, suggesting that the reserve pool of teachers had been depleted over this period (Darling-Hammond, et al., 1999). These first-time teachers were comprised of new graduates (33.8 percent) and delayed entrants (19.4 percent). Table 1 shows the change between 1987-88 and 1990-91 in the supply source of newly hired public school teachers.

[5] Of course, once these two conditions are satisfied, success in recruitment becomes a matter of identifying an appropriate pool and developing appropriate recruitment strategies to effectively attract and retain the target population.

Table 1. Percentage Distributions of Newly Hired Public School Teachers by Supply Source: 1987-88 and 1990-91[6]

Source	Public School Teachers	
	1987-88	1990-91
Total number	106,820	133,798
Total percent	100.0	100.0
Percent first time teachers	38.6	53.2
Newly prepared	26.8	33.8
Delayed entrants	11.8	19.4
Percent transfers	19.9	16.3
Other sector (any state)	9.5	7.1
Other state (same sector)	10.4	9.1
Percent reentrants	41.5	30.5

The change in the source of newly hired teachers has continued into the late 1990s. Recent data show that there has been a sharp rise in the number of individuals studying to be teachers in the United States. While total enrollment in institutions of higher education rose 15 percent in the last 15 years, new teacher graduates increased by 49 percent from 1983 to 1998 (Feistritzer, 1999). These new teacher graduates, however, differ from those of previous years in that a much higher percentage have gone into teacher preparation programs at the postbaccalaureate level. In fact, a recent survey of teacher preparation programs documents a shift away from recent high school students with bachelor's degrees in education as the sole source of new teachers, to students with master's degrees in noneducation fields as a large source (Feistritzer, 1999). For example, while in 1984, only 3 percent of teacher preparation programs reported students beginning a program at the postbaccalaureate level, in 1999 27 percent did so (Feistritzer, 1999). In 1999, 79 percent of prospective secondary school teachers (as well as 75 percent of elementary school teachers) who began their preparation to teach at the postbaccalaureate level had degrees in noneducation fields.

Career Paths of Newly Hired Teachers

What are the pathways by which newly hired teachers arrive at the classroom door? A look at their occupational activities one year prior to entering teaching can provide some insight. The career paths and activities of newly hired public school teachers in each group differ markedly. As might be expected, more than 90 percent of newly prepared teachers had been in college in the previous year; the remainder had obtained their highest degree the year before and had mostly substitute teaching jobs or nonteaching jobs (in or outside of education). Delayed entrants had more diverse experiences before their first year of teaching than did the newly prepared teachers.

[6] Source: U.S. Department of Education, National Center for Educational Statistics, Teacher Supply in the United States: Sources of Newly Hired Teachers in Public and Private Schools, 1988-1991 (October, 1995).

More than 80 percent were working in the previous year, mostly as substitute teachers (45 percent) or outside the field of education (25 percent) or in nonteaching jobs in education (10 percent). Among those not working, most were engaged in homemaking or child-rearing (Rollefson and Broughman, 1995).

Transfers were defined as teachers teaching in an elementary or secondary school in another state or sector, and sometimes both during the previous year. In the public sector, transfers came equally from public and private schools. Reentrants were more diverse in their prior year experiences than transfers, with more than two-thirds working in the prior year primarily in substitute teacher positions (24 percent) and in non-teaching jobs in education (19 percent). Some reentrants (10 percent) had been attending college the previous year and another 19 percent were homemaking or child-rearing (Rollefson and Broughman, 1995).

Transfers from Nonteaching and Out-of-Education Fields.

Among delayed entrants and reentrants, working in nonteaching occupations was a major prior year activity. A third of delayed entrants and more than a third of reentrants transferred from other occupations in 1991. Of those delayed entrants who transferred from occupations in education, 67 percent came from teacher aide positions; those who came from outside education came equally from professional and support occupations.

These data suggest two career strategies at work: one is a career strategy used by individuals; the other is a recruiting strategy used by education policy makers (Rollefson and Broughman, 1995). The first strategy, which may have been adopted by the large proportions of reentrants who transferred from other occupations, involves holding a job while waiting for a teaching position to become available. The large numbers of delayed entrants and reentrants who held substitute positions and teacher aide positions suggests that these jobs in education may have served as stepping stones into teaching for both inexperienced and experienced teachers.

The second career strategy may reflect a policy strategy developed in response to the anticipated teacher shortages of the last decade by many states: the development of alternative route certification and licensure programs to recruit individuals without education degrees. Many of these programs targeted members of minority groups and individuals in high-need areas in teaching, such as mathematics and science. Although there is great variation in the extent to which these programs provide education and support, by the early 1990s, at least 40 states had some form of alternate route program (Feistritzer, 1993; Michael-Bandele, 1993).

Implications for Teacher Recruitment Strategies

Findings of recent research on supply and demand of teachers have implications for the development of teacher recruitment programs. Two of the findings that have an important bearing on issues of teacher recruitment are: 1) There are several sources of supply for newly hired teachers, these sources fall into four main categories, and their contributions to the teaching pool can be estimated; 2) Demand for teachers is best determined at a disaggregated level; that is, by identifying needs for teachers by geographic location, field of specialization, and characteristics of teachers.

Sources of supply for newly hired teachers. The fact that in the recent past newly hired teachers have come from four main sources can assist policymakers interested in developing policies and practices to recruit new teachers to focus their efforts more narrowly. Focusing efforts on each of these sources suggests different recruitment strategies. For example, an initiative to increase the number of newly graduated teachers might emphasize recruiting students in the traditional pipeline into teacher education programs (through teacher cadet type programs for middle and high school students), recruiting undergraduates who have not yet declared a major into teacher education programs, or (in light of the fact that 40 percent of teacher education graduates do not go directly into teaching [Ingersoll and Bobbitt, 1995]) increasing the number of teacher education graduates who go directly into teaching through placement programs. The knowledge that a major source of teachers is the pool of substitute teachers and paraprofessionals working in education can inform the development of recruitment programs for these populations. Table 2 (A-B) show prevalent approaches and models for recruiting teachers from each of the four supply sources. Additionally, adapting the classification system used by Worner (1991), these strategies have been categorized as "fast-track," "moderate-track," and "slow-track," according to the time each will take to bring about the preparation and hire, or sometimes just hire, of a certified teacher from each of the supply sources.

Table 2A. Strategies for Recruiting Teachers by Duration Supply Source: *Newly Prepared Teachers*

Fast Track (0-2 years)

Partnerships with Undergraduate/Graduate Institutions

Features:	*Incentives:*
• internships • mentorship opportunities • baccalaureate or post-baccalaureate degrees • employment upon degree completion	• scholarships • forgivable loans • tuition waivers • summer employment • housing credits • transportation stipends

Employment Clearinghouses/Networks

Features:	*Incentives:*
• partnerships between school districts, recruitment specialists, IHEs and university career centers • computerized data-bases	• ease of access to employment opportunities • application process made easier

Financial Incentives

Features:	
• signing bonuses • increased salaries and benefits • home-buying grants	

Moderate Track (3-4 years)

Baccalaureate Degree Program

Features:	*Incentives:*
• individual advising • peer support • employment placement • networking with schools	• scholarships • loan forgiveness • internship opportunities • mentorship opportunities • advising and peer support • tutoring • summer employment • school and district-based training • employment guarantee upon completion

Paraprofessional Pathways Program

Features:	*Incentives:*
• continuing employment as paraprofessional • school (or district) based course work • mentorship • internship	• scholarships • loan forgiveness • tuition waivers • child care • transportation • academic and social support network • employment

Community College-Based Articulation Program

Features:	*Incentives:*
• partnerships between community colleges, school districts, local teachers' unions, or universities • internship • mentorship • school (or district) and university- based course work	• scholarships • loan forgiveness • tuition waivers • child care • transportation • academic and social support network • employment

Slow Track (5-8 years)

Teaching Magnet/Teacher Cadet Program

Features:	*Incentives:*
• partnership with IHE and school district • potential high school or college credit • summer employment • liaison with IHEs • field placement experiences in local schools • job observation program • course seminar	• scholarships • loan forgiveness • summer employment • tutorial assistance and counseling • internship • transportation • academic course credit

Table 2B. Strategies for Recruiting Teachers by Fast Track (0-2 years)Supply Sources: Delayed Entrants, Transfers and Reentrants

Delayed Entrants

Relicensure/Certification of Substitute/Reserve Teachers	
Features: • paid internships • mentoring • highly-targeted course work • school-based staff development	*Incentives:* • scholarships • loan forgiveness • tuition waivers and stipends • transportation • child care • ensured employment upon completion

Alternative Licensure Programming for Individuals with Nonteaching Degrees	
Features: • intensive, focused training (university or school-based course work) • internship experiences • mentoring • support and evaluation during first years of teaching	*Incentives:* • scholarships • loan forgiveness • tuition waivers • transportation • child care • guaranteed employment • elevated placement on district salary schedule

Transfers

Employment Clearinghouses/Networks	
Features: • partnerships between school districts, recruitment specialists, IHEs and university career centers • computerized data-bases	*Incentives:* • ease of access to employment opportunities • application process made easier

Reciprocity Agreements	
Features: • portability of licenses and certifications across state lines	*Incentives:* • ease of access to teaching positions outside of licensing or certifying state

Outreach	
Features: • recruitment fairs • letter-writing campaigns	

Financial Incentives	
Features: • signing bonuses • increased salaries and benefits • home-buying grants	

Reentrants

Reentry Programs	
Features: • job sharing • part-time employment • targeted advertising • general public service announcements • open house receptions	*Incentives:* • signing bonuses • increased salaries and benefits • home-buying grants • opportunities for refresher training • favorable placement on district salary schedule • portability of pensions and licenses

Disaggregated demand for teachers. The finding that supply and demand problems are more effectively addressed by identifying the need for teachers and a potential teacher supply at a disaggregated level, is also helpful in focusing recruitment efforts at the state and local levels. Policy-makers would do well to identify the qualifications and characteristics of teachers needed in particular geographic subdivisions. For example, a local recruitment program should determine the specific teaching needs of a district or districts before embarking on a recruitment initiative.

Teacher Recruitment in the Higher Education Act: Goals and Strategy

Under Title II of the Higher Education Amendments (HEAs) of 1998, the Department of Education authorized the "Teacher Quality Enhancement Grants"— three programs designed to make lasting changes in the recruitment, preparation, licensing and support of the nation's teachers (U.S. Department of Education, 1999). The overarching goal of the Teacher Quality Enhancement Grants program is to improve student performance through comprehensive approaches to improving teacher quality (U.S. Department of Education, 1999). In order to achieve this primary goal, the Department of Education has mandated that applicants for the Teacher Quality Enhancement Grants develop:

- More rigorous state standards for initial teacher certification.
- Recruitment programs that will attract highly competent people into teaching careers.
- High-quality pre-service teacher training programs that offer strong clinical components, rigorous course work, and continuing support to recent graduates (U.S. Department of Education, 1999).

Although there are three programs within the Teacher Quality Enhancement Grants Program: State Grants Program, Partnership Grant Program, and Teacher Recruitment Grants Program, for the purpose of this literature review, we focus on the Teacher Recruitment component.

The Teacher Quality Enhancement Grants Program is built on the premise that every child deserves a competent teacher in their classroom. This goal has become increasingly difficult to achieve, however, as simultaneous increases in student enrollment and early teacher retirement have forced many schools, particularly those in high-poverty rural and urban areas, to hire teachers who are either under-qualified or teaching outside their subject area. The Teacher Recruitment Grant Program is designed to support the efforts of both local partnerships and states in reducing shortages of qualified teachers in high-need school districts (U.S. Department of Education, 1999). The program suggests several strategies grantees may adopt:

- Identify the **critical needs** of the participating high-need districts for recruiting and preparing highly competent teachers.
- Identify and recruit from **pools of potential teachers** who best fulfill these needs.

- Design **high-quality teacher preparation and induction programs** tailored to both support teacher candidates and fulfill the education needs of the community (U.S. Department of Education, 1999).

The programs supported by the Teacher Recruitment Grant Program are expected to produce new teachers with strong content knowledge and pedagogical skills. The programs also intend to place and retain teachers for a period of at least three years in high-need districts.

Chapter 3: State and Local Efforts in Teacher Recruitment

In the following sections, we present descriptions and outcome data on the effectiveness of a variety of state- and locally administered teacher recruitment programs. Note that the distinctions between these types of programs (state and local) are not always obvious. One state program, Troops to Teachers, is in fact a national initiative administered through coordinating offices at the state level. Several programs discussed in the local section are also national efforts, but these are administered through partnerships between the national organization(s) and local school districts. In general, however, state programs are administered (and funded through) state governments, and local programs are run under local control.

The strategies used by state and local programs are sometimes similar and sometimes different, according to the resources and priorities of the state or locality. We found far more literature (descriptive and outcome-oriented) about local programs than about state programs, and thus in the local section we are able to provide more details about the kinds of strategies used. Aside from places where more information is available about local programs than about state programs, the state and local section of the review follow essentially parallel structures. For clarity's sake, the local information is synthesized so that comparisons between different kinds of programs can be easily made. In the state section, there were so few examples of each type (and so little data on effectiveness) that a simpler prose style was adopted.

Teacher Recruitment from a State Perspective: An Overview

The body of literature regarding state teacher recruitment efforts[7] has grown tremendously in the last ten years as the subject has gained national prominence. Problems related to teacher shortages in critical fields (math and science) and in high-need areas (urban and rural), insufficient ethnic and gender diversity in the teaching force, and low retention rates for new teachers have been identified and described. These issues, coupled with the increasing frequency of state mandates to limit class size and the aging and retirement of baby-boom generation teachers have prodded states to take action to increase, improve, and diversify the pool of teachers in public schools (National Commission on Teaching and America's Future, 1996). Education policy analysts have recommended that the most efficient means to address both teacher shortage and teacher quality issues is to target specific populations at critical points in the teacher recruitment pipeline with programs tailored to simultaneously support teacher candidates and fulfill the state's education needs (Hirsch, Koppich, and Knapp, 1998; Darling-Hammond, et al., 1999).

The teacher recruitment pipeline encompasses the identification, recruitment, selection, training and certification of teachers. Target populations within this pipeline have included middle and high school students, undergraduate and graduate students

[7] "State teacher recruitment program" refers to programs that are implemented statewide, are sponsored by the state, or are primarily administered at the state level.

(both education and noneducation majors), minorities, paraprofessionals and substitute teachers, mid-career professionals, transferring teachers, and reentrants to the profession. A number of different approaches to recruiting these target populations have been employed at the state level. These include, but are not limited to:

- Teacher clubs and scholarship programs that encourage middle and high school students to become teachers through teaching focused club activities, mentoring and financial incentives;

- Targeting minority populations—particularly during the precollegiate years and through community colleges;

- Continual financial assistance and social support services for education students throughout their undergraduate and graduate experiences;

- Alternative certification or preparation programs for paraprofessionals, mid-career professionals, and other individuals who have earned their baccalaureate degree in a noneducation subject;

- Induction programs that provide intensive support and constructive peer evaluation for novice teachers during their first critical years of teaching;

- Establishing portable licensing agreements with other states in order to encourage teachers to move to high-need areas outside of their licensing or certifying state; and

- Professional development activities that enhance the skill base of teachers (Hirsch, et al., 1998; Darling-Hammond, et al., 1999).

Many states have incorporated the strategies listed above into teacher recruitment programs. However, with the exception of Connecticut, none have developed and implemented a *comprehensive* policy strategy to effectively recruit quality teachers. Darling-Hammond and colleagues (1999) note that teacher shortages are "much rarer in states with proactive teacher recruitment policies" than in those without such efforts. However, simply implementing individual policies is not sufficient. In order for a state teacher recruitment program to be *effective*, it must be part of a larger, comprehensive teacher recruitment strategy.

Description of State Recruitment Programs

Table 3 highlights some of the current recruitment efforts implemented at the state level. Most of these efforts can be classified into five types: (1) programs targeting middle- and high-school students; (2) minority recruitment programs; (3) alternative certification programs; (4) programs for mid-career professionals or paraprofessionals; and (5) reentry programs. Note that the categories of programs are not mutually exclusive. Frequently, states incorporate components of different types of programs in their own efforts. For example, a South Carolina program classified as a High School

Recruitment Program also secondarily targets males and minorities. Table 3 gives the types of recruitment programs, goals, target populations, the number of states that have implemented each initiative, and examples of state programs. Examples 1-5 give more detailed descriptions of a middle school program, two high school programs, a recruitment effort aimed at minorities, and a mid-career transition program. We have not included specific descriptions of alternative certification and reentry programs because we did not have comprehensive evaluative data available.

Table 3. State Recruitment Programs

Description of Program	Programs				
	Programs Targeting Middle and High School Students	Minority Recruitment Programs	Alternative Certification Programs	Programs for Mid-Career Professional/ Paraprofessionals	Reentry Programs
Goals	Identify, interest, inform and instruct middle and high school students regarding teaching as a career so that they will choose to major in teacher education in college.	Select, support and prepare minority individuals for careers in teaching.	Accelerate the entry of individuals into teaching careers through modified licensure requirements.	Create a "pathway" for mid-career switchers and paraeducators to attain teacher certification.	Encourage retired teachers to reenter the classroom through revision to pension policies (i.e. allow them to teach and earn a salary without losing their pension benefits.)
Target Population	Students in middle school, junior high and/or high school. Nontraditional and more academically able students.	Minority students and adults.	Noneducation background with a bachelors degree or higher	Retired or laid-off military personnel and Department of Defense civilian employees.	Retired school teachers.
No. of States with Programs[7]	20[9]	30[10]	44 (plus the District of Columbia)[11]	28[12]	4[13]
State Program Example	Middle school: South Carolina's ProTeam High School: South Carolina's Teacher Cadet	South Carolina Program for the Recruitment and Retention of Minority Teachers	Texas Alternative Certification Programs (nine total)	Troops to Teachers	Maryland Reemployment of Retired Teachers Act 1999

[7] ECS Information Clearinghouse, 1999; Hirsch, et al., 1998; South Carolina Center for Teacher Recruitment, 1998a; American Association of Colleges for Teacher Education, 1997; ECS, 1999; ECS Information Clearinghouse, 1998, Blair, 1999.

[9] Calif., Conn., Fla., Ga., Hawaii, Ill., Ind., Kan., Ky., Md., Mass., Miss., Neb., N.C., Okla., Pa., S.C., Texas, Wash., Wis.

[10] Ala., AK, Ark., Conn., Fla., Ga., Hawaii, Ill., Ind., Ky., Md., Mich., Minn., Mo., Neb., Nev., N.J., N.Y., N.C., Ohio, Okla., Ore., Pa., R.I., S.C., Tenn., Texas, Va., Wash., Wis.

[11] Ala., Ark., Ariz., Calif., Colo., Conn., Del., D.C., Fla., Ga., Hawaii, Idaho, Ill., Iowa, Ky., La., Maine, Md., Mass., Mich., Minn., Miss., Mo., Mont., Neb., N.H., N.J., N.M., N.Y., N.C., Ohio, Okla., Ore., Pa., R.I., S.C., S.D., Tenn., Texas, Utah, Vt., Va., Wash., W.Va., Wis., Wyo.

[12] Ala., Ariz., Calif., Colo., Del., Fla., Ga., Ill., Ky., La., Mass., Miss., Mo., Nev., N.J., N.M., N.Y., N.C., Ohio, Okla., Ore., Pa., S.C., Tenn., Texas, Va., Wash., Wis.

[13] Md., N.C., S.C., Texas.

Examples of State Recruitment Programs

Example 1. Middle School Recruitment Program

South Carolina ProTeam Program

Run out of the South Carolina Center for Teacher Recruitment, ProTeam is designed to encourage exemplary middle school students to attend college and consider the possibility of teaching as a career. A secondary goal is to expand the pool of minority and male teachers available to the public schools of South Carolina.

Recruitment. ProTeam students must be in seventh or eighth grade, be in the top 40 percent of their class, receive recommendations from three teachers, and demonstrate the potential for successful completion of high school and college. The South Carolina Center runs several recruitment activities including career fairs and dedicated mailings to recruit both students as well as new ProTeam sites. During the 1997-98 school year, 43 middle or junior high schools in 24 school districts offered the ProTeam course to 790 students.

Academic Preparation. There are two program models: one includes a course that runs for 18 weeks (one semester). The second is a year-long implementation model followed by an optional club. Through the hands-on, self-exploration course, students are exposed to role-models and participate in teacher-like activities.

Financial support. The center provides each semester-long class a $125 grant for supplies, curriculum materials, and additional activities. The center gives year-long classes for $250.

Support Services. ProTeam encourages parents and other family members to participate in the program through workshops and curriculum activities. There are also six regional college days held across South Carolina for all ProTeam students to tour campuses and talk to current and former teacher cadets.

Source: South Carolina Center for Teacher Recruitment, 1998b.

Example 2. High School Recruitment Program

South Carolina Teacher Cadet Program

The South Carolina Teacher Cadet Program is run by the South Carolina Center for Teacher Recruitment. The program encourages academically talented or capable high school juniors with solid interpersonal and leadership skills to consider teaching as a career. The secondary goal is to educate these students about teaching, schools, and social issues, so they will become advocates of education. In recent years, math and science components have been added to encourage students to pursue teaching careers in these fields.

Recruitment. South Carolina runs several recruitment activities including career fairs and dedicated mailings to recruit both students as well as new teacher cadet sites. The state also makes an effort to bridge the middle school component (ProTeam) with the Teacher Cadet Program. Teacher cadets must have at least a 3.0 grade point average in a college preparatory curriculum and five recommendation letters. They must also submit an essay stating their interest in the program. Since 1985-86, the program has grown from just four high schools to 145 high schools serving 2,695 students. By the end of the 1997-98 academic year, almost 21,000 high school students had completed the course.

Academic Preparation. The Teacher Cadet Program includes a class designed to provide an introduction to teaching.

Financial Support. Each teacher cadet class receives a grant to purchase supplies, develop curriculum materials, and provide additional activities for class.

Support Services. Depending on the schedule, teacher cadets may participate in college visits, regional activities, receptions and conferences. Students may join the Future Teachers of America, and the Student Action for Education Club or the Choices Club. The Future Teachers of America, and the Student Action for Education Club are designed to prepare students for the future. The South Carolina Center for Teacher Recruitment and the South Carolina Education Association collaborate to encourage teachers to establish these clubs on their campuses. The South Carolina Center also sponsors the Choices Club for campuses where no Futures Teachers of America/Student Action for Education Club exists. The Choices Club allows students to be involved in activities while also remaining focused on high-school and college preparation. Membership in these clubs is not limited to teacher cadet students.

Source: South Carolina Center for Teacher Recruitment, 1998b.

Example 3. High School Recruitment Program

North Carolina Teaching Fellows Program

The North Carolina Teaching Fellows Program was proposed by the Public School Forum of North Carolina and has been funded since 1986 by the North Carolina General Assembly to recruit academically talented North Carolina high school students into teaching careers. The teaching fellows program is designed to provide an academically and culturally enriched preparation program that extends beyond the classroom experience and develops professional teachers that are competent leaders and decision makers. A secondary goal is to recruit and retain greater numbers of male and minority teacher education candidates in North Carolina (Arnold and Sumner, 1992).

Recruitment and selection. Top students are recruited to apply for the teaching fellows program by teacher recruitment officers within their high schools. Recipients must be legal residents of North Carolina and citizens of the United States. The Fellows selection process occurs at the school district and regional levels. Selection committees are composed of educational, political, and community leaders from across the state.

Academic preparation. The fellows program is a four-year undergraduate teacher education program that is offered at 14 of North Carolina's colleges and universities. The curriculum includes school visits, hands-on investigations into the issues that define public schools, topical monthly seminars, and courses on leadership, at-risk students and cultural diversity.

Field experience. Teaching fellows are exposed to early and extensive field experience during both the school year and the summer months. Teaching fellows travel across North Carolina to schools in a variety of geographic locations and observe classes in both rural and urban schools. They learn about differences in cultures and economy, attend conferences, and participate in other preparation experiences.

Financial support. Each year the program awards 400, four-year scholarships, worth $20,000, to outstanding high school seniors who agree to teach for four years in one of North Carolina's public schools following their graduation from a teacher education program (Berry, 1995).

Support services. In addition to financial support, fellows are provided with an academic advisor in the liberal arts as well as a teacher educator advisor. In addition to monitoring the fellows academic progress, the advisors also serve in a mentoring capacity.

Source: Berry, 1995; Arnold and Sumner, 1992.

Example 4. Minority Recruitment Program

California State University Teacher Diversity Programs

In response to a growing awareness of the need to diversify California's teachers, the Board of Trustees of the California State University (CSU) established pilot Teacher Diversity planning projects in 1989-90. The program was expanded to include all campuses of the CSU system in 1990-91. The Teacher Diversity programs work with high school and middle school students as well as school paraprofessionals. Though campuses may have specific objectives, the overarching goal is to encourage these students to attend one of the CSU campuses and eventually get their teaching credentials.

Recruitment. Depending on the program, recruitment efforts may vary. For example, one teacher diversity program identifies instructional aides employed by collaborating school districts. Another program uses individual schools to identify minority students in grades 7-12 who might be interested in teaching.

Financial Support. The teacher diversity projects receive grants from the state lottery fund. Participants have access to stipends and scholarships, paid tutoring internships, and paid teacher's assistant positions. Some of the participants may get financial support from community colleges, four year degree programs and fifth year teacher preparation programs.

Academic Preparation. Participants receive academic support and basic skills preparation focused on passing the competency tests and remediation in subject matter content.

Tutors. Participants have access to tutors for help with course work and competency test preparation.

Advisors. Participants receive advice in the selection of undergraduate courses appropriate to meeting teacher credential requirements.

Career Counseling. Secondary and undergraduate students can get information about careers in teaching and opportunities to participate in future teacher organizations.

Field Experiences. Participants serve as supervised teaching interns. Supervising teachers may serve as role models for some students.

Tutoring Internships. Participants can serve as tutors to the students in the schools where they have their field experiences.

Example 5. Mid-career Transition Program

Troops to Teachers

The Troops to Teachers Program is a referral and placement assistance program funded by the federal government and is managed by the Defense Activity for Nontraditional Support (DANTES), a unit of the Department of Defense. The program began in January 1994 as a result of legislation introduced to offset military layoffs. The goals of Troops to Teachers are to give retired or laid-off military personnel and DOD civilian employees an entrance into a second career in public education, and to help fill the shortage of public school teachers, particularly in rural and urban areas.

Troops to Teachers currently has 21 state placement assistance offices in states that expressed an interest in attracting former military personnel to teaching. As of September 1999, more than 3,355 participants have been hired as teachers or teachers' aides in 49 states, the District of Columbia, Puerto Rico and Department of Defense schools overseas.

Recruitment. Those interested in academic teaching must hold a baccalaureate degree from an accredited college. Those interested in vocational teaching are not required to have a baccalaureate degree but must be able to document their skill level and expertise in other ways.

Academic Preparation. No specific academic preparation is undertaken through the Troops to Teachers Program. However, state support offices to assist in highlighting restrictions and barriers to certification or employment and, where possible, arrangements are made to increase opportunity.

Support Services. The primary function of the program is referral and placement assistance. DANTES provides counseling and assistance to help participants identify employment opportunities and teacher certification programs. Participants choose the area in which they want to teach. State Support offices assist participants with both certification requirements and employment leads. The state program managers assist individuals with the certification and employment process. State program managers also seek to form extensive connections and partnerships with their local communities in order to make the transition from active duty military service to the classroom an easier one for participants.

Another support service available is the Troops to Teacher Web site. The site provides information and resource links to help participants transition to a second career in public education. One feature of the site is Mentor Connection, a network of Troops to Teachers participants currently working as teachers, who volunteer to answer basic questions about becoming a teacher. The site also includes links to public education job listings, model resumes, and state departments of education.

Source: Troops to Teacher Information Packet, 1999; Feistritzer, Hill and Willet, 1998.

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Description of State Recruitment Policies

States may also carry out policies that aid in teacher recruitment or retention, without creating formal programs. These policies include:

- Loan Forgiveness. Nineteen states[14] offer college loan forgiveness to individuals who teach in the public schools after finishing their degrees (ECS Information Clearinghouse, 1999; Hirsch, et al., 1998; South Carolina Center for Teacher Recruitment, 1998a; American Association of Colleges for Teacher Education, 1997; ECS, 1999; ECS Information Clearinghouse, 1998).

- Salary Increases. Eleven states[15] have raised teacher salaries in an effort to attract more and better qualified individuals to the teaching profession. This may also be tied to performance-based salary raises, special "master teacher" certification, or other outcome-based evaluation of teacher performance tied to a pay schedule. To promote retention in the field, salary schedules may be adjusted to reward longevity in teaching (ECS Information Clearinghouse, 1999; Hirsch, et al., 1998; South Carolina Center for Teacher Recruitment, 1998a; American Association of Colleges for Teacher Education, 1997; ECS, 1999; ECS Information Clearinghouse, 1998).

- Signing Bonus. Four states[16] have signing bonuses for new teachers or teachers new to the district (ECS Information Clearinghouse, 1999; Hirsch, et al., 1998; South Carolina Center for Teacher Recruitment, 1998a; American Association of Colleges for Teacher Education, 1997; ECS, 1999; ECS Information Clearinghouse, 1998).

- Pensions. At least four states[17] have enacted policies permitting retired teachers to continue to draw pensions if they return to the classroom (Blair, 1999).

To the best of our knowledge, the effects of these polices at the state level have not been evaluated. For this reason, we return to a consideration of state programs which have been evaluated in the following section addressing the effectiveness of state efforts toward teacher recruitment.

State Program Outcomes and Outcome Measurement

To assess the intermediate and long-term outcomes of state recruitment programs, eight evaluations of such programs were identified in the literature. These studies included evaluations of:

- South Carolina Teacher Cadet Program;
- South Carolina ProTeam Program;

[14] Ariz., Ark., Calif., Conn., Fla., Ky., Maine, Md., Mass., Minn., Neb., Okla., Ore., Pa., S.C., Texas, Utah, Va., Wis.
[15] Ala., Ark., Calif., Conn. Iowa, La., Mich., N.C., Okla., Texas, W.Va.
[16] Md., Mass., N.Y., S.C.
[17] Md., N.C., S.C., Texas.

- South Carolina Program for the Recruitment and Retention of Minority Teachers;
- South Carolina Minority Access to Teacher Education Program;
- North Carolina Teaching Fellows Program;
- Texas alternative certification programs (nine total);
- California State University Teacher Diversity Programs; and
- Troops to Teachers Program (a nationwide program operated through state placement assistance offices).

These eight programs represent mid-career transition programs (one), alternative certification programs (one), minority recruitment programs (three), and middle and high school student programs (three, one of which also serves undergraduates).[18] Note that there is some overlap in these categories as one of the minority recruitment programs also targets paraprofessional teacher aides, as well as non-paraprofessional minorities. The middle and high school programs also emphasize recruiting males and minority students.

[18] None of the evaluations were from a reentry program.

Table 4. Evaluations of State Recruitment Programs[19]

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Methods	Data Analysis
South Carolina Teacher Cadet Program— High School Program (South Carolina Center for Teacher Recruitment, 1998b unpublished annual report; Cabral and Cabral, 1999 unpublished evaluation)	***Intermediate:*** • Participants complete high school • Participants attend college ***Long-term:*** • Participants choose teacher education major • Participants complete teacher certification • Participants become advocates for education • Increase number of students entering teaching profession • Increase number of males and minorities entering teaching profession • Increase number of science and math teachers • Fill teacher shortages in rural and urban areas	N=246 to 1,876[20]	• Pre-post measures • Unmatched comparison group for some outcomes	• Focus Group • Questionnaire • Survey • Field Visits • Interviews	• Descriptive statistics[21]

[19] See Appendix B for outcome data from both state and local program evaluations.

[20] 246 participants responded to both pre- and post- surveys. 1,876 participants responded to either pre- or post-surveys.

[21] Descriptive statistics: A type of statistic that describes a sample and may include frequencies, means, medians, modes, and other information (refer to the supplemental statistical reference list for more information).

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Methods	Data Analysis
South Carolina ProTeam Program—Middle School Program (South Carolina Center for Teacher Recruitment, 1998b – unpublished annual report; Cabral and Cabral, 1999 unpublished evaluation)	***Intermediate:*** • Encourage exemplary students to complete high school • Improve participants' grades and behavior • Improve participants' self-esteem ***Long-term:*** • Change participants' academic and teaching related behaviors (college attendance, graduation, entering the teaching profession) • Increase number of males and minorities entering teaching profession	N=348 to 654	• Pre- and post-measures	Participants: • Focus Group • Questionnaire • Survey • Field Visits • Interviews	• Descriptive statistics
South Carolina Minority Access to Teacher Education (MATE)—Minority Recruitment (Bond, 1997 – unpublished evaluation)	***Intermediate:*** • Pre-MATE component: Encourage minority high school students to complete high school • Pre-MATE component: Recruit rural, minority high school students into the teacher education pipeline ***Long-term:*** • Pre-MATE component: Participants enter teacher education programs in college • MATE Scholars component: Recruit minority teacher education majors who are willing to teach in critical geographic or subject areas	N=63	• Post intervention measures	• No data collection methods described	• Descriptive Statistics

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Methods	Data Analysis
South Carolina Program for the Recruitment and Retention of Minority Teachers (SC_PRRMT)—Minority Recruitment (Bond, 1997 - unpublished evaluations)	***Intermediate:*** • Recruitment of desired population ***Long-term:*** • Place participants in rural "critical needs" schools	25 participants	• Post intervention measures	• No data collection methods described	• Descriptive Statistics
North Carolina Teaching Fellows Program—High school/undergraduate recruitment program (Berry, 1995; Arnold and Sumner, 1992)	***Intermediate:*** • Recruit exemplary high school students into the program • Recruit males and minorities into the program ***Long-term:*** • Improve retention rates in teaching • Improve teaching effectiveness	570 participants	• Quasi-experimental design[22] • Pre-and post-measures with national sample comparison group	• Focus groups • Surveys of participants and principals • Comparison to database of a national sample of beginning teachers	• Descriptive statistics • Stepwise regression analysis[23]

[22] Experimental design: Research design in which subjects are randomly assigned to groups to allow researchers to compare outcomes for the treatment group and a no-treatment control or comparison group. In a quasi-experimental design the assignment to a treatment or control or comparison group is not random. Design commonly used in educational settings because random assignment to groups is not feasible (refer to the supplemental statistical reference list for more information).

[23] Regression analysis: a procedure used to identify relationships between variables (refer to the supplemental statistical reference list for more information).

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Methods	Data Analysis
California State University Teacher Diversity Programs—Minority Recruitment (McElvie, 1991)	*Intermediate:* • Prepare undergraduate students for competency tests • Increase number of minority paraprofessionals meeting teacher credentialing requirements • Provide advice on teaching careers to middle and high school students and to undergraduates • Provide internship experiences for preservice teachers *Long-term:* • Increase diversity in the teaching force	20 CSU campuses	• Quasi-experimental design • Pre-and post-with state data comparison group	• Survey of deans of education and directors of teacher education programs	• Descriptive statistics
Texas Alternative Certification Programs—Alternative Certification (Cornett, 1990)[24]	*Intermediate:* • None specified *Long-term:* • Increase diversity in the teaching force	No sample size specified	• Design not described • Post data were collected	• No data collection methods specified	• Descriptive

[24] This source is not the evaluation of the Texas programs, but a synthesis of evaluation data from programs across the country.. We were unable to obtain the unpublished evaluation reports which this author cites as her sources but felt that because the outcome data showed positive change, the information we did have about the evaluation should be included.

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Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Methods	Data Analysis
Troops to Teachers—Mid-career transition (Feistritzer, Hill, and Willett 1998; Defense Activity for Nontraditional Education Support (DANTES), 1999 - unpublished information packet)	***Intermediate:*** • Assist military and DOD civilian personnel affected by troop reductions to enter new careers in public education ***Long-term:*** • Provide positive role models for students in public schools • Relieve teacher shortages, especially in math and science • Improve retention in teaching • Improve teacher quality	1,171 participants	• Quasi-experimental • Post-intervention measures with national sample comparison group	• Survey or participants	• Descriptive statistics

Intermediate Outcomes[25]

Intermediate outcomes are goals programs hope to achieve during, or shortly after, the duration of an individual's participation in the program. The most common intermediate outcomes for minority recruitment programs, alternative certification programs, and mid-career or paraprofessional training programs included retaining participants in the program (also a goal for one of the middle school programs), preparing participants for competency tests, and preparing participants to meet teacher-credentialing requirements. Another intermediate outcome listed in the evaluations was sustaining or developing participants' interest in and commitment to teaching (Bond, 1997; Berry, 1995; McLevie, 1994; Cornett, 1990; Feistritzer, et al., 1998).

For recruitment programs targeted at middle and high school students, an important outcome is high school graduation and enrollment in college. As with programs targeting adult populations, sustaining and developing the students' interest in teaching is an intermediate outcome for this type of program. Other intermediate outcomes included improving participants' grades and behaviors (especially for middle school students) and improving participants self-esteem (South Carolina Center for Teacher Recruitment, 1998b; Cabral and Cabral, 1999).

Other kinds of immediate goals for all types of reviewed programs included the target populations of the recruitment program, for example, increasing the number of older teachers, male teachers, or minority teachers or paraprofessionals training to be teachers. Variations of this goal included two programs focused on recruiting high-achieving or exemplary students as future teachers (South Carolina Center for Teacher Recruitment, 1998b; Cabral and Cabral, 1999; Cornett, 1990; Berry, 1995).

Not all intermediate outcomes of state teacher recruitment programs are entirely focused on increasing teacher supply, per se. Other goals may be dictated by those the program is intended to serve. In the Troops to Teachers Program evaluation, assisting military personnel who were released from the military during troop reductions find employment was an explicit goal. The same program has a stated goal of providing positive role models for public school students (Feistritzer, et al., 1998).

Long-term Outcomes

Long-term outcomes are long-range goals which may not be measurable until months or years after a cohort of participants completes a teacher recruitment program. Predictably, the long-term outcomes of the eight evaluated programs focused on increasing the number of certified teachers, thereby relieving teacher shortages, retaining teachers for the long term, and improving teacher quality, particularly in urban areas with

[25] Because many of the evaluations did not designate outcomes as intermediate and long-term, we used our judgment in defining these as such.

relatively high proportions of uncertified or emergency certified (and therefore presumably under-qualified) teachers. Two projects set as long-term goals increasing the supply of teachers in critical fields, such as math and science (South Carolina Center for Teacher Recruitment, 1998b ; Feistritzer, et al., 1998). Programs targeting middle and high school students aimed to encourage students to attend college and major in education in order to increase the number of teachers in the long-term (South Carolina Center for Teacher Recruitment, 1998b; Cabral and Cabral, 1999).

Long-term outcomes also included increasing the number of paraprofessionals certified as teachers (mid-career or paraprofessional programs) and diversifying the teaching force by increasing the number of minority teachers, including males and older teachers as well as teachers from cultural and ethnic minorities (all of four kinds of evaluated programs) (Bond, 1997; Berry, 1995; McLevie, 1994; Cornett, 1990; Feistritzer, et al., 1998; South Carolina Center for Teacher Recruitment, 1998b). One minority recruitment program targeting middle school students focused their long-term efforts on developing their own teachers to meet state needs (South Carolina Center for Teacher Recruitment, 1998b).

Last, two programs reported their long-terms goals included instilling in participants a sense of the civic value of public education, and a commitment to the system. The South Carolina Center for Teacher Recruitment, for example, measures these goals through the participants' comprehension of the consequences that social issues have on the education system and in their retention in the field (South Carolina Center for Teacher Recruitment, 1998b).

It is interesting to note that none of the reviewed state recruitment programs had student outcomes as either immediate or long-term goals.[26] This suggests that teacher quality or teacher effectiveness and student outcomes are not considered direct goals of many programs to recruit teachers. The fact that none of the programs included student outcomes among its goals also raises a host of quality versus quantity of teacher supply questions (Darling-Hammond, et al., 1999)

Data Systems Accessed by State Recruitment Programs

In order to track the progress of participants and alumni and measure program impact, state recruitment programs used a variety of data sources, including state and local data sets and systems the programs created for themselves. Among the extant data sources used were the California Postsecondary Education Commission Student Profiles collection and data from the Office of the Chancellor of California State University on the ethnicity of newly credentialed teachers (McLevie, 1994). One project accessed data from a national sample of new teachers compiled by a doctoral degree candidate (Berry, 1995). State records of test score data and student demographic data were used, as were data from the Texas Teachers Appraisal System (Cornett, 1990). In total, three programs

[26] We do not mean that programs targeting middle and high school students did not have student-participant outcomes as goals. We refer here to the prospect of measuring outcomes of the students taught by program alumni to measure the effectiveness of these new teachers.

used existing data sources, but only two programs used available state data systems. As all eight of the programs were state-level programs, it is surprising that so few evaluations reported using student and teacher data which is routinely collected in every state. Though these programs did not explain why they neglected to use state data systems, we can speculate the reasons are related to poor data quality, lack of access, or lack of awareness.

Programs also created their own data systems containing enrollment data and demographic information about participants. These project-built data sets included coded information from surveys of participants administered for evaluation purposes. Six programs built their own data systems. One exemplary database, constructed to track outcomes of the South Carolina Teacher Cadet program, stores longitudinal data collected for ten years after a participant leaves the program. The South Carolina Center for Teacher Recruitment, the administering body of the program, authorizes an annual post-survey of former teacher cadets. Variables include certification, the number of students entering teaching (disaggregated by gender and ethnicity), the number of participants teaching in critical shortage urban and rural areas, and the number of participants teaching math and science (South Carolina Center for Teacher Recruitment, 1998b). Other project-generated databases did not collect follow-up data for such a length of time and did not track as many variables.

Evaluation Methods

Of the eight reviewed evaluations of state programs, five reported using strictly quantitative methods and three reported using a combination of quantitative and qualitative methods. On the whole, evaluations were of acceptable rigor.

Quantitative methods used in the evaluations included surveys of the participants themselves, program staff, principals, deans, and program alumni. Data collected included basic descriptive statistics such as number of participants, demographic data on participants, and numbers of participants certified or entering teaching jobs. Three projects used extant data sources to collect or corroborate some of this information.

Surveys were generally administered either before and after or after the program only depending on the outcome to be measured, and at least three programs used surveys to collect longitudinal data. The projects reporting collection of follow-up data included one project that surveyed program alumni after they had been teaching for three years and two programs serving middle and high school students which tracked high school completion and career choice during a ten year period. Response rates for surveys are not always reported and one of the reported response rates was as low as 20 percent (one was as high as 65 percent). Interviews and focus groups with program alumni were conducted after participation in the program.

Three program evaluations used a quasi-experimental design to compare outcomes for participants to outcomes for nonparticipants of the programs. For example, the Troops to Teachers evaluation used a quasi-experimental design that posed similar

survey questions to former military personnel that had transitioned into teaching as had been asked in three previous national sample surveys of public school teachers. Another evaluation (which was not considered quasi-experimental) attempted comparison with an unmatched comparison group, a construction which compromises the program's ability to link program activities with superior outcomes for participants.[27] Two others compared those who completed programs to a national random sample of new teachers. A third program made a similar comparison to state data. Compared variables included demographic characteristics of teachers, new teachers' perceptions of school working conditions, and intentions to remain in teaching.

Qualitative methods employed by three evaluations included focus group interviews with participants, field visits to observe teaching alumni in their classrooms and individual interviews with participants and their teachers. Much of the data gathered through qualitative techniques was used in formative evaluation to refine the content or delivery of program services.

[27] In South Carolina, participants in the Teacher Cadet Program have SAT scores approximately 100 points higher than the average of nonparticipants and 50 points higher than the national average. However, the cadet program is targeted to "talented" students; students must have at least a 3.0 grade point average to participate. Therefore it is expected that the specially selected high-achieving participants will out perform their peers on standardized tests.

Chapter 4: Effective Elements of State Recruitment Efforts

This section describes effective programs in state recruitment efforts. We consider an entire program effective if it can demonstrate positive outcome data, and assume its components are each an effective part of the whole. It is important to note that each program may employ more than one strategy, and it is usually impossible to tell from program evaluation results exactly which component of the project is responsible for each measured change. Additionally, it is also difficult for us to know whether the elements we highlight below as "effective" are unique to successful recruitment programs as there is so little evaluative information available concerning state programs.

In the evaluations with data indicating positive outcomes most of the measured outcomes were intermediate outcomes. This is due to the fact that half of the evaluations reported outcomes for relatively recent cohorts of program graduates. Thus not enough time has passed since the studied cohorts completed the programs to measure truly long-term results. Three program evaluations included eight to ten years of data; these programs were better able to assess long-term outcomes.

Effective State Leadership and Partnership Structures

The structures of the reviewed state programs show a variety of models for partnerships between and among state and local entities. The South Carolina Program for the Recruitment and Retention of Minority Teachers represents the simplest structure. This program, created in 1991, is state-funded and housed in a state university where it serves both recruits from technical college (two year institutions) and also teacher aides who wish to pursue bachelor degrees in education leading to credentialing. A satellite teacher education program delivers initial course work to teacher aides from sites in rural parts of the state. These students must then complete their methods courses and advanced classes on the central campus. Courses at the main campus are offered on weekends for participants who work during the week. Program staff include a full-time director and a full-time recruiter plus 1.25 full-time equivalent employees, all of whom are university employees.

Elsewhere in South Carolina, a much more complicated model has emerged. The South Carolina Center for Teacher Recruitment houses a number of diverse efforts aimed at targeting various populations of prospective teachers. The center is the oldest and largest teacher recruitment initiative in the state. The center, like the university program described above, was initially funded by a 1984 state law mandating the "elevation of the teaching profession." The center was created in 1986 and is headquartered at a state university. This center now runs programs offered in 144 high schools representing more than three-quarters of the school districts in the state. Each year the center reports to the South Carolina Commission on Higher Education, which governs its budget. The center has a staff of 13, including the designated "state teacher of the year" who is released from the classroom for one year to join the center staff. Other teachers-in-residence are

released from their classrooms for up to two years and work from their homes in each of six regions of the state to coordinate local efforts.

Interestingly, these two efforts (plus one other program not reviewed here) attempted to form a state minority teacher recruitment partnership to inform the state legislature about issues of shared concern. However, the partnership has never been particularly active (Bond, 1997). An annual joint activity operated in tandem for three years by the three partners was eliminated in the early 1990s due to funding constraints. In 1997 an evaluation report for several state programs reported the partnership has "drifted into non-existence" (Bond, 1997). The individual programs continue to operate independently.

The Texas State Education Agency supervises the nine minority recruitment programs operating in 75 districts in the state. Initially school-based, the programs are now collaborations between state universities and school districts (Cornett, 1990).

California also has state teacher recruitment programs administered in partnership with state universities. Unlike the single, unified South Carolina program, the California programs have no central monitoring agency and serve varying populations and have different target populations according to the campus at which each is located. Twenty campuses are involved in the umbrella program to recruit diverse teachers. The initial pilot of the program began in 1989 and was expanded to all 20 campuses by 1990. The efforts are funded by the state lottery fund. The programs target middle and high school students as well as school paraprofessionals to encourage them to enter college and earn bachelor degrees and teaching credentials. Programs at each campus collaborate with local schools and school districts, and each functions independently with its own set of strategies but a shared goal of increasing the diversity of the teaching force in the state (McLevie, 1994).

The North Carolina Teacher Fellows Program demonstrates the most complex organizational structure of the models reviewed. The program is funded directly by the state government and is administered by a nonprofit partnership of business, educational, and political leaders. A governor-appointed commission sets rules and policies for the operation of the program. Fourteen state universities and colleges participate in cooperation with local school districts which invite fellows to serve internships in the classroom. The state provides scholarships for fellows to enroll in participating college and universities. Within each university there are staffs to provide services to fellows. For example, one university hires 12 master teachers from the public school to advise, teach, and provide field experiences for fellows. Unlike the South Carolina program, fellows in North Carolina are encouraged not to work in order to pursue study and classroom field work full-time (Berry, 1995).

The last model is a structure radically different from the others, because it is nationally funded, and because it was originally designed not specifically to increase the number of available teachers, but to provide opportunities for former soldiers to enter public education as a second career. The Troops to Teachers Program was initiated in

1994, a result of 1993 legislation mandating a decrease in Armed Services personnel. The program is funded by the U.S. Department of Defense and administered by 21 state placement assistance offices. The state offices network independently with local school districts to find teaching positions for participants. The program functions more as a clearinghouse for information than a service-providing program, in effect, as it does not provide direct services to participants other than referrals and scholarships (Feistritzer, et al., 1998).

Effective Strategies for Recruitment and Selection

Successful recruitment of program participants is a critical factor for program results. Effective state recruitment programs share some common strategies: hosting informational meetings, posting notices of opportunities for participation, and working with relevant student and professional organizations to target their memberships. In addition to these methods, effective programs also use more creative, more focused strategies as well. Although we have been able to identify the following recruitment strategies as effective, we do not have exact counts as to the number of participants recruited for each evaluated program.

The programs targeting middle and high school students use teachers to recruit new applicants from among their best students. In fact, eligibility criteria for these programs are more academically rigorous than for adult participants in other kinds of programs. Examples of minimum enrollment requirements include: a 3.0 grade point average, recommendations from several teachers, top 40 percent of the class, an essay describing motivation for enrollment. Candidates are screened on the basis of these criteria, and the most qualified applicants are selected. One program has a teacher specified in every high school in the state responsible for recruiting the most promising students (South Carolina Center for Teacher Recruitment, 1998b).

Another program based at a university, the California State University Teacher Diversity Program, has a task force focused on developing strategies to successfully recruit minority candidates. Unfortunately, the specific strategies used were not described in the evaluation. The task force is sponsored by the dean of education at the university (McLevie, 1994).

The mid-career Troops to Teachers Program invites applications from any interested retired or laid-off military personnel or DOD civilian employees, but only provides funding to the top candidates. A second tier of candidates receives referral services, but no funding. Candidates determined to be unqualified receive no services (Feistritzer, et al., 1998).

Effective Support Services

Effective support services for programs targeting middle and high school students include providing information about colleges, including visits and tours of state colleges. Sessions in which older participants and program alumni make presentations to younger

participants and college and teaching also provide guidance to participants. Mentoring and opportunities for networking are common features of effective programs targeting students. Other services include newsletters, telephone help lines to provide information about the college application process, and job banks for participants who eventually earn education degrees. Two of the student-oriented programs also offer college scholarship funds (South Carolina Center for Teacher Recruitment, 1998b).

Programs targeting adults offer forgiveness of student loans, preparation for competency tests, academic advice, career counseling, internships, stipends, paid fellowships, and scholarships (Bond, 1997; Berry, 1995; McLevie, 1994; Cornett, 1990; Feistritzer, et al., 1998). One program, Troops to Teachers, offers on-line mentors to counsel participants. This mentoring service is made up of an online network of Troops to Teachers participants currently working as teachers, who volunteer to answer basic questions about becoming a teacher. Another service offered is scheduling of classes convenient to the target population, for example, classes during the evening and on weekend for participants who work during the day (Bond, 1997).

Effective Preservice Education Strategies

Students participating in the South Carolina Teacher Cadet Program receive college credit for an Introduction to Teaching course. This strategy is coupled with a teaching assistants program through which participants work one-one-one with a teacher to practice their skills in the classroom. The South Carolina ProTeam program offers a similar course designed to interest middle school students in the teaching profession (no college credit is offered). Optional educational opportunities are provided in the context of a school-based club for future teachers (South Carolina Center for Teacher Recruitment, 1998b).

Programs for adults focus on helping them earn undergraduate degrees in education. They also provide tutoring services intended to provide specific assistance, basic skills, or preparation for credentialing or competency examinations. Some programs provide field experiences in addition to helping participants earn college credit. (Bond, 1997; Berry, 1995; McLevie, 1994; Cornett, 1990; Feistritzer, et al., 1998). The most creative of these strategies, used by the North Carolina Teaching Fellows Program, includes a series of visits to different communities where participants can experience the differences between urban and rural classrooms across the state. The same program offers internships in school district offices in order to expose participants to the workings of local education authorities (Bond, 1997).

The mid-career program offers no academic support or preservice education, but does refer participants to state and local alternative certification programs for such services. Some participants receive scholarship funds to be used in these programs (Feistritzer, et al., 1998).

Effective Teacher Induction Practices

Supportive induction programs are not a recruitment strategy but are designed to retain teachers by helping them make the transition from a teacher training program to the classroom. None of the recruitment program evaluations reviewed reported data on teacher induction practices. However, participants in recruitment programs in Texas and North Carolina were surveyed about mentoring programs for new teachers which were not part of program services but were offered to all new teachers. Respondents in both states reported the mentoring relationship between new and experienced teachers was critical. Respondents also indicated mentoring services were not delivered consistently from school to school and year to year (Bond, 1997; Berry, 1995).

One of the California State University Teacher Diversity Programs, the California New Teacher Project included an induction component testing alternative models of support for beginning teachers. Model projects were funded throughout the state. The project confirmed that effective induction models reduced attrition among first- and second-year teachers by two-thirds (Patrick, et al., 1999). Of particular interest, the project found that retention rates improved for minority teachers and teachers working in urban and rural areas.

Effective Dissemination and Institutionalization

Because funding for the programs discussed in this section come from state governments, they are all by definition institutionalized. However, each of the programs has an interest in disseminating information about its effective strategies, and some also encourage other states to adopt successful program models.

The most effectively publicized recruitment program in states has been Troops to Teachers, which has received attention from the national press. It is frequently cited as an example of an effective mid-career recruitment program (Feistritzer, et al., 1998).

The university-based state recruitment program in California began as a program on one campus, but has now spread throughout the state university system. Thus state resources (in the university system) were effectively leveraged to increase the target population and increase the number of program graduates (McLevie, 1994).

Besides running two effective student-oriented programs, the South Carolina Center for Teacher Recruitment also acts as a clearinghouse for information about the status of teaching in the state. In its role as a resource for information about effective strategies, the center disseminates information about strategies and outcomes within and outside the state. The center model has been replicated to varying degrees by 17 other states (South Carolina Center for Teacher Recruitment, 1998b).

Chapter 5: Teacher Recruitment from a Local Perspective: An Overview

Initiatives at the local level to increase the number of teachers in schools and school districts range from nationally coordinated initiatives to individual partnerships between teacher education programs and nearby school districts. Many of these programs focus on meeting the specific needs of the partner districts (or schools within districts) in terms of teacher characteristics. This section begins with a description of national initiatives and individual programs, discusses the intermediate and long-term outcomes of local programs, and ends with a description of effective elements of these recruitment programs.

Description of National Initiatives and Individual Programs

National initiatives. Major initiatives to recruit teachers that are coordinated at the national level but implemented at local levels, include: the Ford Foundation Minority Teacher Education Project (Clewell, Anderson, Bruschi, Goertz, Joy, & Villegas, 1995), Teach for America (Teach for America, 1999), and the DeWitt Wallace–Reader's Digest Fund Pathways to Teaching Careers Program (Villegas and Clewell, 1998). Table 5 gives characteristics of these programs, including target populations, number of sites, number of participants served, major strategies, and funding agencies.

Table 5. Nationally Coordinated and Locally Implemented Initiatives

Program	Target Population	# of Sites	# of Participants	Major Strategies	Funding Agency
Ford Foundation Teacher Education Program	• Minority individuals • Precollege students • Undergraduates/ graduates • Community college students • Paraprofessionals	50 sites in six states (Ala., Fla., Ga., La., N.C., Ohio), the Navajo Nation and the Los Angeles area	Approximately 5,000	• Identification and recruitment • Assessment and monitoring • Academic and personal support • Curriculum revision • Financial incentives (limited)	Ford Foundation
Teach for America	• Drawn primarily from recent baccalaureate degree recipients with noneducation majors	15 placement sites nationwide	More than 5,000	• Eight-week training course pre-placement • Orientation and support at local sites • Partnerships between teacher education programs and local school districts	Private foundations and individuals
DeWitt Wallace–Reader's Digest Pathways to Teaching Careers Program	• Emergency-certified teachers • Substitute teachers • Paraprofessionals • Returned Peace Corps volunteers	41 sites nationwide	Almost 3,000	• Flexible and varied selection criteria • Network of academic and social support • Modification of teacher education curriculum • Substantial tuition assistance	DeWitt Wallace–Reader's Digest Fund

Individual programs. School districts have established numerous individual programs to recruit teachers. There are: university teacher education programs in partnership; community colleges in partnership with university teacher education programs and school districts; and partnerships of school districts, local teacher unions, university teacher education programs, community colleges, and other entities. Most of these efforts can be classified into five types: (1) precollege recruitment programs; (2) initiatives at traditional four-year and redesigned five-year university-based programs to improve recruitment and retention of students already in the pipeline; (3) efforts to develop pathways into teaching for students in community colleges; (4) programs that tap the pool of paraprofessionals and teacher aides; and (5) programs to attract mid-career professionals and other college graduates into teaching (Darling-Hammond, et al., 1999). Although some of the programs in these categories have been state-supported, most have focused on filling local district demands for teachers in specific areas, usually mathematics, science, bilingual education or special education. Another recruitment focus is on candidates with certain characteristics desired by the districts, such as minority status, fluency in another language, or male gender. Table 6 below gives goals, target populations, and major activities of local recruitment programs. Examples 1 – 5 give examples of each type of local initiative.

Table 6. Descriptions of the Types of Efforts in Local Recruitment[28]

Description of Initiative	Initiative				
	Pre-College Recruitment Programs	Four Year and Five- Year University Based Programs	Community College Articulation Program	Paraprofessional Pathways into Teaching	Alternative Preparation Programs
Goals	Identify, interest, inform and instruct middle and high school students regarding teaching as a career so that they will choose to major in teacher education in college and graduate as teachers.	Attract college students into teaching	Select, support and prepare community college students for careers in teaching.	Create a "pathway" for teacher certification by paraeducators	Expedite the licensure process for teacher candidates who have bachelor degrees and subject matter expertise
Target Populations	Students in middle school, junior high and/or high school. Nontraditional and more academically able students.	• Undergraduate students in noneducation majors or undecided majors. • Older individuals who had not attended college but who are interested in teaching • Career-switchers with noneducation degrees	Students attending two year institutions.	Paraeducators in local school districts	Noneducation degree holders with subject matter expertise
Major Activities	• Recruitment in local schools • Use structured activities to: → introduce students to teaching as a career through job observations, school visits, etc. → maintain student interest in teaching → develop teaching skills via internship experiences → academic enrichment seminars • Academic support at the pre-college level • Support services at the postsecondary level	• Recruitment of target populations • Financial incentives (scholarships, loan forgiveness, etc.) • Innovative teacher preparation programs • Academic and social support	• Preeducation course at the community college level • Support services from community college and teacher education program • Articulation agreements and partnerships with four year colleges • Special sequencing of course work • Financial support	• Financial support • Academic and social support • Curriculum revision • Partnerships between school districts and IHEs	• Revision of licensure requirements • Formal preparation for teaching • On the job supervision • Field experience • Mentoring • Induction

[28] Although much more prevalent at the local level, these program types are also present at the state level.

Examples of Local Recruitment Programs

Example 1. Pre-College Recruitment Program

The Teacher Track Project at California State University Fullerton

One of the projects funded as part of the California State University's Teacher Diversity Program, focuses on recruiting two minority populations into teaching: instructional aides and high school students (Yopp, Yopp, & Taylor, 1991).

Juniors and seniors in four Santa Ana Unified District high schools were targeted for recruitment because these high schools were the most urban and enrolled the highest minority population locally. two-hundred fifty students have participated in the activities. Program activities included recruitment, academic preparation, tutoring experience, career and academic advisement, and special events.

Recruitment. Teachers and counselors, identified as Teacher Track Project advisors, publicized the program by distributing informational material, making announcements in classrooms, and holding informational meetings. These project advisors also supervise all teacher track activities and are the principal support for the high school participants.

Academic preparation. Participants attended a weekly class on educational pedagogy and learning concepts taught by the high school advisor and a teacher education university professor. They kept a journal, notes and a tutoring log and received reprints of articles on good teaching practices and current research on teaching. The program also provided academic support in the form of study assistance, study groups and study skills aids.

Each participant also enrolled in a college-level course for credit: Secondary Education 100, The Teaching Experience: Exploration. These classes were taught by the project advisors.

Tutoring. Participants were required to tutor elementary, junior high or senior high school students for a minimum of eight hours per month or 40 hours per semester. They kept journals of the tutoring experience and shared reactions with peers each week.

Career and academic advising. High school students in the program received career and academic advice regarding the teaching profession from high school advisors, the Teacher Track coordinator, and university personnel, including a financial aid officer.

Special events. Once a semester, participants spent a day on the Fullerton campus attending workshops and lectures by faculty in the teacher education program. They also visited elementary and secondary education classes and toured the teacher education classrooms and offices on campus. Minority faculty and students in the credential program met with the students to talk about teaching as a career. Additionally, each month the teacher education program provided motivational presentations by a guest speaker, often a minority individual and role model for the students.

Source: Yopp, Yopp, & Taylor, 1992; Yopp, Yopp, & Taylor 1991.

Example 2. Four- and Five- Year University-Based Program

The Teacher Opportunity Corps at Teachers College

This program recruits minority men and women into teaching by providing financial incentives and support services to those with a baccalaureate degree. Recruits are encouraged to enroll in a fifth-year master of arts teacher preparation program. Established in 1987 with a competitive grant from the New York State Education Department and augmented with college funds, the program provided financial and academic support to close to 50 students who wished to obtain the masters' degrees necessary in New York State to secure a permanent New York teaching certificate. The focus of the program was to prepare teachers to instruct at-risk students in grades K-12 in New York state schools.

Recruitment. The Teacher Opportunity Corps program was announced in articles in local newspapers with large minority readerships, the teacher union newsletter, paraprofessional newsletters and on the Peace Corps hotline. Information on the program was distributed by faculty and admissions staff of Teachers College during recruitment visits to other institutions.

Financial incentives. The program provided a $1,250 scholarship for part-time study and reimbursement for attending a professional conference, writing center fees, and National Teacher Exam fees.

Academic preparation. In addition to regular graduate courses required by the M.A. teacher preparation program at Teachers College, participants attended a cohort seminar specifically designed for the program. This seminar, a key aspect of the program, was held weekly and focused on urban settings and teaching at-risk students. First-year students were required to attend all seminar sessions, while second-year students were allowed to attend selected sessions and complete an action research project.

The action research project was developed to build participants' capacity to conduct classroom research in areas important to effective instruction of at-risk students. Participants were responsible for the research design as well as data collection and analysis. This project encouraged students to reflect on the real needs of at-risk students and effective teaching techniques to meet these needs.

Field experiences. Participants in elementary education were involved for two semesters in student teaching experiences in schools with high enrollments of at-risk students. Those in secondary education programs completed a practicum and one semester of student teaching. All participants were visited by a supervisor four times a semester. Master teachers at the schools are also available for advice and coaching.

Other support services. Students had access to college support services such as the Writing Skills Center and the Microcomputer Center. In addition to the advice they received from faculty in their teacher education programs, members of the Teacher Opportunity Corps staff provided immediate assistance in problem solving and counseling in academic and career areas to all students.

Source: Jacullo-Noto, 1991.

Example 3. Community College Articulation Program

Premier Project

A collaborative effort involving Duval County Public Schools, Florida Community College at Jacksonville, and the University of North Florida, the Premier project is an example of a collaboration among an urban school district, a local community college, and an urban college of education. Its goal is to attract and retain minority teachers for Florida urban schools.

Program of study. The local community college and the University of North Florida's College of Education and Human Services provided project participants with two-plus-two contracts that form a bridge for a four-year academic program. This individual contract, developed by the student and academic advisors from each college, ensures a smooth transition from the community college to four-year college as well as expeditious completion of course work. Included in the lower division (community college) component were early field experiences and preprofessional education course work. The upper division component built upon the academic foundation and field experience of the first two years.

Academic advising. Students attended regularly scheduled meetings with Premier Project academic advisors at each of the two institutions who provided them with counseling and academic planning support.

Academic support services. The project developed an academic development plan to provide students with academic support. This plan included two components: the basic skills and learning strategies components. As part of the former, skills such as reading, writing and mathematics were supported by services available at the Learning Resource Center on the community college campus. The latter component focused on improvement of the cognitive processes used in critical thinking, problem solving and decision making. These were developed through regularly scheduled sessions at the community college by University of North Florida Premier program faculty.

Early field experiences. An early field experience component was designed to allow Premier participants to build an experiential base in teaching as a profession. Students complete two field experience seminars (a series of biweekly seminars) during the first two years of the program. As part of the seminars, participants are placed with exemplary public school teachers who serve as models of effective teaching and mentors.

The second seminar in the series of early field experiences is linked to the first pre-internship experience required of juniors in the College of Education and Human Services at University of North Florida (Excel I) and serves as a base for this course. Excel I provides students with access to exemplary role models from K-12 classrooms and a forum in which to discuss their field experiences and monitors and documents student progress throughout the pre-internship experience.

Mentoring. A cadre of exemplary K-12 teachers was selected and trained to be field-site directors and mentors for Premier Project students in the early field experiences. Students were placed in targeted clinical experiences with these teachers who modeled effective teaching and provided mentoring.

Source: Gutknecht, Fountain, Kaye, Keenan, D'Zamko, and Whittemore, 1992.

Example 4. Paraprofessional Career Ladder Program

The Aide-to-Teacher (ATT) Project

The Aide-to-Teacher Project is a teacher recruitment and preparation project for culturally diverse paraprofessional classroom aides. It was established at the California State University at Dominguez Hills in 1987 in collaboration with seven local school districts. The program is designed to provide paraprofessionals with the financial, academic and personal support they need to continue employment as classroom aides while completing their undergraduate degree and elementary teaching credential. The program accepts about 50 classroom aides from the participating districts to begin the program each year.

Recruitment. At each cooperating school district a coordinator disseminated an announcement describing the program to all district classroom aides and invited aides to attend an information meeting conducted by the project director. Applications were distributed at each meeting to those interested in the program.

Financial incentives. Participants received a stipend to cover the costs of student fees and books for the academic year. At the end of Phase II (see below), fellows received financial aid advice on obtaining university, state or federal aid that could be combined with project funds to provide a stable and more long-term source of assistance.

Academic preparation. Project fellows participated in a four-phase academic program. Phase I focused on providing non-credit pre-university basic skills preparation for two semesters. In Phase II, participants began a one-year academic program of required college-level math and English courses in which they enrolled as a cohort. These courses were specifically designed to serve as a bridge for fellows into regular upper division course work.

In Phase III, the fellows were integrated into the liberal studies undergraduate degree program, an interdisciplinary major designed for those who wish to become elementary school teachers. In Phase IV, the university recommended participants for an internship teaching credential upon completion of the B.A. degree with a liberal studies major and passage of the California Basic Educational Skills Test (CBEST). This credential allowed them to teach full-time and simultaneously enroll in a three-semester postbaccalaureate credential program. All course work was offered after school or on Saturdays and classroom teaching performance monitored by university supervisors over two semesters, in lieu of student teaching.

Academic and support networks. A number of academic and support services were offered by the Aide-to-Teacher project. University faculty and staff were selected to serve as mentors to fellows, with whom they met on a regular basis for academic advice and help in adjusting to the university. Participants received assistance in preparing for the CBEST by taking a practice examination that helped them assess their strengths and weaknesses. Tutoring was arranged so that they could work on identified weaknesses.

A number of social support activities were also provided by the project. Group social activities were included in Phase II, which were designed to enhance social networking. Family advising sessions were available when needed as well. By Phase III, fellows were encouraged to join the Future Teacher Club in order to develop a supportive social network of peers.

Employment. The seven cooperating school districts in which the fellows continued to work as instructional aides were committed to hiring them as full-time classroom teachers as soon as they were eligible.

Source: Warshaw, 1992.

Example 5. Alternative Preparation Program

Teachers for Chicago

Teachers for Chicago works with the Chicago Teachers Union, nine public and private colleges and universities and several foundations in the Chicago metropolitan area to recruit, educate and train new teachers for the Chicago schools. The program targets individuals with no teaching experience and at least a bachelor's degree in a noneducation field, especially those who work in science, math, and business or have skills in working with bilingual and special education. Established in 1992, the program has enrolled over three hundred participants in the first three years.

Recruitment and Selection. The program advertised in local newspapers and at participating colleges and universities. Because the program wished to select only teachers who were suited to work in urban classrooms, the interview was an important component of the application process. The program used an interview technique developed by Martin Haberman called "The Urban Teacher Interview Selection Process." This interview identified individuals who would make good urban teachers by assessing their persistence, ability to adapt and be flexible, ability to learn from mistakes, and willingness to try new ways of doing things. Candidates had to be accepted into one of the nine participating universities and earn a minimum grade point average of 2.5.

Financial incentives. Participants received funding from the Chicago public schools to earn a master's degree in education at a participating university. The candidates promised to teach in Chicago schools for two years after completing an internship. Because the interns receive about half the salary of a regular teacher, the remaining salary is used for university tuition and for administrative overhead.

Internship. While attending a teacher education master's program, participants worked as interns in Chicago public schools at substitute teacher rates for two years under the supervision of a mentor teacher.

Mentoring. Teachers for Chicago provided mentoring support for participants in the classroom. Mentors, who were high school and elementary school teachers with a masters' degrees, had a teaching certificate for the position they would be mentoring, a record of course work that demonstrated efforts to improve professional skills, and a commitment to at least two years of service as a mentor. The program trained mentors via a mentor training workshop and relieved them of classroom duties so that they could devote all of their time to assisting the interns. Mentors, who typically work with four interns each, advise them on classroom strategies, paperwork, lesson plans, and interactions with administrators and parents. They conduct formal observations and demonstrate effective instructional techniques in the interns' classrooms.

Academic preparation. Participants completed a master's program according to the requirements of whichever of the nine participating universities in which they were enrolled.

Source: Gallegos, 1995a; Gallegos, 1995b.

Local Program Outcomes and Outcome Measurement

Few summative[29] evaluations of the many existing local teacher recruitment programs are available in the literature. Fortunately, we were able to supplement those that we found through literature searches with unpublished evaluations. The information in this section, therefore, is based on a review of ten credible evaluations of various types of programs: one local evaluation of a community college articulation program; two evaluations of paraprofessional pathways programs (one national and one local); one national evaluation of a consortium of university-based five-year programs; five evaluations of national and district-level alternative certification programs; and two evaluations of local loan forgiveness and scholarship reimbursement programs. Table 7 gives the main components of these evaluations.[30]

[29] In general there are two types of evaluations: summative and formative. A summative evaluation deals with pre- to post-change: what are the measurable changes in participant outcomes that pertain to the intervention. A formative evaluation looks at the general implementation process of a program. This usually includes feedback from program participants on their perceptions of the program. Refer to the supplemental statistical reference list for more information.

[30] The criteria for evaluations included in the review of local programs were the same as those used in the review of state programs.

Table 7. Evaluations of Local Recruitment Programs[31]

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Method	Data Analysis
Project TEACH—Community College Articulation Program (Schulman, 1990)	***Intermediate:*** • Recruitment of desired population • Progression of participants through required course work • GPAs • Transfer to four-year college ***Long-term:*** • None specified	212 participants	• Post-intervention measures	• Review of institutional records • Review of data collected by program	• Descriptive statistics
Aide-to-Teacher Project—Paraprofessional Pathways to Teaching (Warshaw, 1992)	***Intermediate:*** • Retention of students • Progression to Phase II • Academic progress of students in Phases II and III (class standing and average GPA) ***Long-term:*** • None specified • Follow-up data collection suggested	113 participants	• Post-intervention measures	• Surveys • Review of institutional records	• Descriptive statistics including cross tabulations[32]
Pathways to Teaching Careers Program—Paraprofessional and Other Pathways to Teaching (Clewell et al., 1997)	***Intermediate:*** • Recruitment of target population • Retention in teacher education program of participants • Progression through required course work ***Long-term:*** • Completion of certification requirements • Placement in teaching • Teaching effectiveness • Retention in teaching	2,579 participants	• Quasi-experimental design • Post-intervention measures • Compared with national sample comparison group	• Surveys of participants, programs, field experience supervisors, and principals • Performance assessment of classroom teaching • Case studies • Documentation interviews	• Descriptive statistics • Tests of significance

[31] See Appendix B for outcome data from both state and local program evaluations.

[32] Cross tabulation: a calculation of the frequency with which two observed values coincide (refer to the supplemental statistical reference list for more information).

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Method	Data Analysis
Eleven-University Consortium—Five Year University-Based Program (Andrew and Schwab, 1995)	*Intermediate:* • Entry of teachers into the profession *Long-term:* • Retention in the profession • Classroom performance of teachers • Leadership behavior	2,917 participants	• Quasi-experimental design • Post-intervention measures compared with comparison groups from national studies and four year versus five year program graduates	• Surveys of graduates and principals	• Descriptive statistics • Tests of significance • Factor analysis[1]
HISD Alternative Certification Program—Alternative Certification Program (Morgan, 1998; Morgan, 1998 – in press)	*Intermediate:* • Recruitment of target population • Performance on certification exam • Retention in program *Long-term:* • Teaching performance in classroom • Achievement of students on standardized tests • Retention in teaching	Approximately 400 program interns	• Quasi-experimental design • Post-intervention measures compared with comparison groups of traditionally prepared novice teachers in the district	• Surveys of ACP interns, mentors and administrators • Assessment of teacher performance • Review of district databases	• Descriptive statistics • Tests of significance

[1] Factor analysis – procedure used to identify relationships between variables (refer to the supplemental statistical reference list for more information)

Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Method	Data Analysis
LAUSD Intern Program—Alternative Preparation Program (Stoddart, 1990)	*Intermediate:* • Number of teachers recruited • Decrease in number of "marginally qualified" emergency-certified teachers • Increase in the number of competent teachers in hard to staff schools • Increase in the number of teachers in shortage fields • Quality of program participants' subject matter preparation • Retention in program *Long-term:* • Retention of teachers in hard to staff schools	1,100 interns	• Pre-post measures • Quasi-experimental design comparing participants with traditionally prepared novice teachers in district and national samples of newly qualified teachers	• Review of district and national databases • Interview data with staff of program • Review of tape recordings of teacher education classes	• Descriptive statistics
Teach for America—Alternative Certification Program (Kane, Parsons and Associates, Inc., 1999 – unpublished evaluation report; Teach for America Impact Measures, undated)	*Intermediate:* • Numbers placed in teaching *Long-term:* • Effectiveness of corps members as teachers • Leadership roles of corps members	Approximately 2,000 participants	• Post-intervention measures	• Surveys of principals and corps members	• Descriptive statistics
Teachers for Chicago—Alternative Certification Program (Kamin, 1999--unpublished evaluation report; Chesek, 1998--unpublished status report; Gallegos, 1995a; Gallegos, 1995b)	*Intermediate:* • Number of participants recruited • Attrition from program *Long-term:* • Retention in teaching in Chicago public schools • Completion of masters' degrees • Achievement of students	Approximately 600 participants	• Quasi-experimental design • Post-intervention measures compared to national sample and student scores of traditionally trained teachers	• Surveys of interns and residents • Review of board of education database • Interviews with graduates and principals	• Descriptive statistics

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Program Name and Type	Anticipated Outcomes	Sample Size	Evaluation Design	Data Collection Method	Data Analysis
Loan Forgiveness Program (Mauro Gelabert, 1993)	***Intermediate:*** • Recruitment of desired population • Retention in program ***Long-term:*** • Completion of program • Retention in NYC public schools after repayment of loans	17 participants	• Post-intervention measures	• Survey	• Descriptive statistics
Scholarship Program (Manzo, et al., 1994)	***Intermediate:*** • Recruitment of target population • Retention in program ***Long-term:*** • Completion of program • Retention in NYC public schools	523 participants	• Post-intervention measures	• Survey	• Descriptive statistics

From the data contained in the evaluations, we will describe intermediate and long-term outcomes identified by the various types of programs, the data systems used to inform the evaluations, and the evaluation methods. Some of the discussion of these issues will be structured according to program type, when this is required for a better understanding of the evaluation components.

Intermediate and Long-Term Outcomes of Local Recruitment Programs[14]

Intermediate and long-term outcomes vary according to two factors: the type of program being evaluated and the goals of the program. For example, the long-term outcomes of a community college articulation program might be choice of a teacher education major in college, completion of a teacher education degree, and entry into a teaching career, whereas long-term outcomes for an alternative certification program might be effectiveness in teaching and retention in the teaching force for a specified period of time.

The specific goals of programs also help determine outcomes. Two alternative certification programs might have different long-term outcomes even though they may be using similar strategies. The goal of one might be to increase the percentage of math- and science-certified teachers in a school district and, thus, one of its long-term outcomes might be to have at least 75 percent of all math and science teachers teaching within field of certification within five years. The goal of the second program might be to increase the number of fully certified teachers of color who are effective teachers and who remain (for a specified period of time) in urban schools. A long-term goal for the second program then might be an increase in the number of participants of color who attain certification, who are judged to be effective teachers, and who are retained in an urban school for a specified number of years.

Community college articulation programs. An internal evaluation of Project Teach at La Guardia Community College chose the following as intermediate outcomes:

- Recruitment of the desired target population (in terms of characteristics and number)
- Progression of participants through required course work
- Improvement in grade point averages
- Transfer to a four-year college

The evaluation did not indicate what long-term outcomes might be considered, although conventional wisdom suggests that appropriate long-term outcomes for this type of program might be:

- Choice of teacher education major in college
- Completion of teacher education degree and certification
- Entry into a teaching career

[14]Because many of the evaluations did not specifically designate outcomes as intermediate and long-term, we used our judgment in defining these as such.

Paraprofessional pathways into teaching. Two evaluations, one of a national program (DeWitt Wallace Pathways to Teaching Career Program) and the other of a local program (The Aide-to-Teacher Project), identified similar outcomes. Intermediate outcomes were:

- Recruitment of targeted populations (including demographic characteristics and numerical goals)—both evaluations
- Retention in program—both evaluations
- Progression through required course work—both evaluations

Long-term outcomes were defined by the Pathways evaluators; the Aide-to-Teacher evaluation called for "additional follow-up evaluations as Aide-to-Teacher students enter the teaching profession to gauge the long term effects of the program" (Warshaw, 1992):

- Completion of degree and certification—both evaluations
- Placement in a teaching position—Pathways only
- Effectiveness in teaching—Pathways only
- Retention in the teaching profession—Pathways only

University-based programs (four- and five-year). One evaluation of a group of eleven five-year teacher education programs to increase the number of effective teachers was conducted (Andrew and Schwab, 1995). The intermediate outcome identified by the evaluators was: entry of teachers into the profession of teaching (this implies completion of degree and certification).[35]

Long-term outcomes were:

- Retention of teachers in the profession
- Classroom performance (effectiveness as teachers)
- Leadership behavior

Alternative certification programs. Four evaluations of alternative certification programs were reviewed: the Los Angeles Unified School District Intern Program, the Teachers for Chicago Program, the Houston Independent School District Alternative Certification Program, Teach for America Program, and the DeWitt Wallace–Reader's Digest Fund's Pathways Program. While not strictly an alternative certification program, the DeWitt Wallace Pathways Program is included here because it involves preparation and certification of bachelor-degree holders who work as teachers while completing teacher certification requirements. Three of the programs were local and two were national in scope. Some intermediate and long-term outcomes were similar across programs. For example, intermediate outcomes were:

[35] Additional intermediate outcomes might have been: grade point average in the program, progression toward completion of course requirements, graduation and certification.

- Number and characteristics of participants recruited and placed—all evaluations
- Retention in program—all evaluations
- Immediate changes in teaching force of district (degrees in number of marginally qualified emergency certified teachers, increase in the number of teachers in shortage fields, etc.)—Los Angeles program evaluation
- Progression through required course work—Pathways evaluation

Long-term outcomes were:

- Completion and certification of participants—all except for Los Angeles program and Chicago program evaluations
- Teacher performance/effectiveness (using principals' ratings)—all except Teachers for Chicago and Los Angeles program evaluations
- Student achievement in participants' classrooms (compared to nonparticipant classrooms)—Teachers for Chicago and Houston program
- Retention in teaching in targeted school district—all except Chicago program
- Completion of two-year commitment to teaching—Chicago program
- Leadership roles of participants—Chicago program

Loan forgiveness and scholarships or tuition reimbursement. Two programs administered by the New York City Board of Education were evaluated. Intermediate outcomes identified by the evaluators were:

- Recruitment of desired participants—scholarship program evaluation
- Retention in the program—both evaluations

Long-term outcomes were:

- Completion of program—both evaluations
- Retention in reaching in New York City public schools after fulfillment of obligations—both evaluations

Data Systems Developed or Used in Evaluation of Local Programs

Although few of the evaluations we reviewed described the data systems that they had developed, it was evident that, for the most part, evaluations of local programs relied on databases they created from survey responses and other data collection tools used in the evaluation. A few evaluations also used existing institutional or district databases to supplement the information collected by the evaluators. For example, the three district-level alternative certification program evaluations used district databases. Teachers for Chicago drew on board of education data systems for information on teacher retention and standardized test scores for students. The Los Angeles Unified School District Intern Program study used data from the district's Personnel Division and a National Center for Research on Teacher Education study to examine intern recruitment patterns, attrition rates, academic qualifications, school assignments, and background characteristics;

comparison statistics were obtained from the American Association of Colleges of Teacher Education Rate III study and NCES data on newly qualified teachers. The Houston Alternative Certification Program evaluation relied on several district databases, including the Accountability System for Educator Preparation for test scores, the district's computer tracking system database for retention information, the Professional Development Appraisal System Database for effective teaching measures, and the Texas Assessment of Academic Skills database for student standardized test scores. The Aide-to-Teacher Project used an institutional database for information on participant academic records, enrollment, and retention.

It is logical that evaluations commissioned or undertaken by school districts or universities would have access to the extensive databases maintained by these entities. Gaining access to such databases can greatly help an evaluators collect information Access granted to these databases can also reduce the cost and increase the accuracy of external evaluations.

Evaluation Methods

Half of the evaluations (five) used only post-intervention measures. The five remaining evaluations used or planned to use a quasi-experimental design for most of their outcome measures. The quasi-experimental designs used as comparison groups national samples derived from national databases (such as National Center for Education Statistics' databases, the American Association of Colleges of Teacher Education's Research About Teacher Education (RATE) studies and other data collected via national surveys and studies). Also used as comparison data were district data on traditionally-trained teachers in the district.

The majority of the credible evaluations that we reviewed represented a combination of quantitative and qualitative methodologies. Six of the ten evaluations used a combination of these methods; the other four used only quantitative measures. We considered qualitative data to be data that were not quantifiable, regardless of the method of collection. So, for example, responses to open-ended survey questions were usually considered to be qualitative and responses to interview questions that were quantifiable might be considered quantitative.

Qualitative data were often used in formative evaluations, which are not included in this review. Evaluations also used these data, however, to provide deeper insight into the quantitative findings of an evaluation. Quantitative data were most often used to answer summative evaluation questions or to provide measures of outcomes indicators.

The main methods of collecting quantitative data were through surveys and reviews of quantitative data in databases or records, such as transcripts. The major qualitative methods were through case studies, interviews and document review. Several of the evaluations surveyed (by mail or by telephone) participants or graduates of programs, principals, mentor teachers, and administrators. One evaluation (Pathways) collected data on teacher performance via teacher observations using a performance

assessment instrument. Interviews were also conducted by telephone or in person with key individuals involved with the programs. In at least one case (Pathways), site visits were made to all program sites to collect data.

Most of the evaluations included descriptive statistics including cross tabulations for analysis and presentation of their findings. In some cases where comparisons (between or among pre- and post-measures or experimental and control groups) were involved, tests of differences such as Chi Square[36] or t-tests[37] were used to show significance. In one case (the evaluation of the eleven-university consortium), a factor analysis was used.

[36] Chi-square test: This test is a computational approach which measures the degree to which the sample is representative of the population from which the sample was drawn (refer to the supplemental statistical reference list for more information).

[37] T-test: This test measures the significance of the difference between two values, in order to assess whether the difference is likely due to chance (refer to the supplemental statistical reference list for more information).

Chapter 6: Effective Elements of Local Recruitment Programs

The effective elements cited in this section are elements of programs that have demonstrated success through credible evaluation data showing positive outcomes for recruitment efforts. Unfortunately, we found no evaluations that tied specific strategies or elements to program effectiveness. The elements that we identify here, therefore, are those that have been used by effective programs. Our choice of these elements is based on the assumption that because the programs were deemed effective, we can infer that their elements and strategies were also effective. We can state, however, with a high degree of confidence based on our observations of more than one hundred teacher recruitment programs that these elements are necessary, though not sufficient, to ensure program success.

Effective Local Partnership Structures

Effective partnership structures at the local level tend to involve parties whose support and resources are necessary for the success of the initiative. These parties are actively involved in the implementation of the programs and stand to benefit from their success. In effective partnerships all partners have clearly defined roles and responsibilities and have had a say in the planning of the program (Villegas and Clewell, 1998). For example, the funder of the DeWitt Wallace–Reader's Digest Fund's Pathways to Teacher Career Program requires the partners in each program site to collaborate in designing and implementing the program. Partnerships began at the planning phase (before full proposals were written) with the collaborating parties conducting an assessment of the districts' needs for qualified teachers, examining local trends in the racial and ethnic composition of the student body and the faculty, and deciding on the pool from which to draw the new teacher recruits.

An effective basic partnership structure for paraprofessional initiatives is a collaboration between an institution of higher education (IHE) and a school district or districts. This basic structure is important for this type of program because it depends on the cooperation of schools for their participants, program implementation, and eventual employment of the participants. The IHE partner brings an academic preparation and credentialing function to the mix of services.

For effective community college articulation programs, the basic partnership of an IHE and a school district or districts requires another element, which is the community college. Close collaboration between a community college and the four-year institution is necessary for this type of effort because a smooth transition for participants is vital to success. The community college must prepare students (through a preeducation curriculum and advice and support) for the transition to a teacher education program at the four-year institution. The IHE must make the transition process easier through articulation with the community college curriculum (credit transfers, etc.), as well as academic counseling and support services tailored to incoming community college students.

Effective alternative certification programs seem to reflect a more eclectic mix of partners. The basic partnership structure seems to be that of a school district collaborating with an IHE or IHEs. This is a logical structure because it is often the school district that determines the need for teachers and enacts the policies (waivers, emergency certification, etc.) for the training of participants, while it is the IHE that provides the academic preparation that is usually required for credentialing. In the case of two of these programs, additional partners were included. Teachers for Chicago involved a collaboration among the Chicago Public Schools, the Chicago Teachers Union, the Council of Chicago Area Deans (representing the IHEs), and the Golden Apple Foundation. The Houston Independent School District Alternative Certification Program represented a partnership among the district, Teach for America Region IV, the University of St. Thomas, and school staff members. Although the literature describing Teachers for Chicago is not explicit on this point, the teachers' union as a partner may have contributed to smoothing the way for the placement of interns at substitute teacher pay in teaching positions (requiring a waiver of union requirements). The Houston Alternative Certification Program partnered with Teach for America because this program was an important source of new teachers in the district. These examples illustrate that, in addition to basic partnerships, other local parties whose cooperation may be important given the situation in a specific school district are likely and important collaborators.

Effective Recruitment and Selection Strategies

Effective recruitment and selection strategies varied according to target population. There was no description of recruitment strategies for community college articulation programs that were reviewed. Effective paraprofessional pathways programs involved the school districts heavily in recruitment activities. In the Aide-to-Teacher Project the school district coordinator in each of the seven partner school districts was responsible for disseminating an announcement about the program to all district classroom aides and inviting aides to attend an information meeting at the district headquarters (Warshaw, 1992). Pathways programs targeting paraprofessionals use similar approaches; these programs also ask principals to nominate promising paraprofessionals in their schools to be program participants. Alternative certification programs place ads in the newspapers, on TV and radio, and involve the schools and IHEs in disseminating information. In the case of Teach for America, which is a national program, recruitment takes place at 100 colleges and universities around the nation. Campus representatives of Teach for America, who are students at those universities, plan and execute informational sessions and presentations, distribution of information and flyers, and advertising. A Teach for America Day is held once a year as a recruiting device (National Association of State Directors of Special Education, 1990). It is important that programs identify a recruitment pool large enough to accommodate the selection process. Pathways evaluators concluded that that recruitment pool from which participants are drawn should be large enough to allow the program freedom to choose the most qualified candidates while still meeting recruitment targets (Clewell, Villegas, et al., forthcoming).

Selection procedures did not vary according to program type. In most cases, interviews of applicants are used in selection, sometimes using instruments such as the Haberman Urban Teacher Interview Selection Process or the Gallup Urban Teacher Perceiver. Selection is often made by a committee. One program uses writing samples, another a practice teaching session, others require that participants be accepted into the teacher education program before applying. If nontraditional applicants are being reviewed, it is important to use nonconventional selection criteria in addition to the more conventional grade point average (GPA) and test score criteria (Villegas and Clewell, 1998). For example, Pathways programs used interviews and writing samples to gauge the depth of applicants' commitment to teaching, persistence in overcoming obstacles, and other qualities that are important in completing a program and teaching in an urban setting. Teachers for Chicago, for example, has emphasized the importance of ensuring that "teachers have the ability and the desire to stick it out in our classrooms" (Gallegos, 1995b).

In discussing key criteria to consider in selecting successful candidates from nontraditional pools for participation in teacher education programs, Pathways evaluators cited the following: entering GPA, performance on writing samples, performance in interviews, background in minority cultures, and years of teaching experience (Clewell, Villegas et al, forthcoming). These evaluators found that candidates who entered Pathways with higher GPAs (2.8 and above on a four-point scale) were more likely to complete certification requirements in a timely manner than those with lower GPAs. They caution, however, against automatically disqualifying applicants with marginal GPAs and suggest that these applicants be considered seriously if they have strong writing samples or perform well in their interviews.

Effective Support Services

Effective support services—which can be characterized as academic or social support services—vary according to the target populations being served. For example, services designed for students in community college articulation programs are different from those targeted to paraprofessionals or career switchers. The following are examples of specific support services provided by the effective programs in this review.

Community college articulation programs, as represented by Project Teach at La Guardia Community College, provided academic and counseling services necessary for students to be successful in completing a major and making a successful transition to a four-year teacher education program (Schulman, 1990). These support services included:

- Learning groups under a group leader that worked on academic skill development and discussed professional issues (related to the teaching profession).
- Individual and group counseling services that included career and education goal identification, courses, change of major, internship and graduation advisement, financial aid and transfer information, career, academic and personal counseling, and employment guidance.

- Meetings with teacher education faculty and students at the partner four-year institution.

Because community college students often have lower socioeconomic status and are more likely to belong to minority groups than four-year college students, they require a strong academic support system to help them make the transition to a four-year college.

Paraprofessional participants are similar to community college students because they tend to have similar levels of education and demographic characteristics. As noted above, both populations require a great deal of support, both academic and social. The Aide-to-Teacher Project and Pathways Programs that serve paraprofessionals offer a similar range of support services. These include:

- Specially designed course work that help participants make the transition into a teacher education program.
- Financial assistance with tuition, books, and fees.
- The services of a mentor.
- Test preparation assistance.
- Tutoring.
- Financial aid advising.
- Cohort structure to provide a social support network.
- Family, childcare and transportation support.
- Employment assistance.

A profile of the Pathways paraprofessionals shows them to be older as well as likely to have families. As paraprofessionals, they receive low wages, slightly above subsistence. Many of them have been out of college for a number of years and suffer from a lack of self-confidence in terms of their academic achievement (Villegas and Clewell, 1998). An array of well-integrated support services is a necessity in programs that serve this population.

Effective support services for participants in the alternative certification programs focus on providing supervision once they begin teaching as interns or emergency-licensed teachers in the classroom. Some programs offer financial support, while others do not because many of these participants receive reduced teacher salaries for their work in the classroom. Support services include:

- Guidance, supervision and support of trained mentors and others in the classroom—all programs.
- Support group of other interns.
- Preparation for certification exams.
- Placement assistance—all programs.
- Financial assistance in the form of tuition waivers, loan forgiveness, scholarships, stipends.

Effective Preservice Education and Academic Preparation

Effective academic preparation for teaching varies greatly depending on the population recruited. At the community college level a pre-teacher education curriculum should be developed that is articulated with the teacher education program at a four-year partner college and for which credits can be transferred to that college.

Paraprofessional pathways programs require a revised teacher education curriculum that gradually integrates participants into the academic mainstream after a long absence from college-level work. Also required is a curriculum that builds on these paraprofessionals' strengths and experiences by emphasizing the application of theoretical concepts in teaching. Additionally, these courses should be offered at convenient times and locations to encourage attendance by individuals who may be working full-time in schools.

Alternative certification programs offer a combination of pre-assignment preparation and long-term training to participants in the following formats:

- A short, intensive introductory course on teaching together with field experience before assignment to classroom teaching **and**
- A longer training period that often consists of weekly or twice a week after-school (or Saturday) classes during a longer period (such as a year or two) **or**
- A graduate degree program offered by a participating university **or**
- A revised graduate degree program developed specially for program participants with the addition or substitution of seminars and workshops on topics of special interest.

Effective Teacher Induction Practices

Only a few of the programs we reviewed described teacher induction practices. The Aide-to-Teacher Project provided for university supervisors to monitor classroom performance of participants during two semesters in lieu of student teaching. Some of the Pathways Programs serving paraprofessionals provided supervision for a period after they had been placed in a teaching position. In general, Pathways Programs provide support to graduates in the form of special workshops, alumni networks, and inclusion in Pathways activities.

Most of the alternative certification programs provided some type of support for participants once they entered the classroom. These supports include:

- Guidance of a mentor teacher during the internship period,
- Supervision and counseling provided by the building principal and a program staff member,
- Access to professional development opportunities,
- Access to a clearinghouse of educational resources, and
- An alumni network with reunions, conferences, and newsletter.

Effective Dissemination Practices

There is little in the literature about dissemination and the formal incorporation of recruitment programs. The Aide-to-Teacher Project developed and disseminated a videotape describing the program. Teachers for Chicago served as a model mentoring program for citywide initiatives. Most of the programs have published descriptions of their activities in journals or reported them at professional conferences.

The most active dissemination of a model that we encountered was that of the Pathways Model. The funder, DeWitt Wallace–Reader's Digest Fund, provided additional monies as well as technical assistance to Pathways sites to disseminate the Pathways model and to explore ways of incorporating it into their universities. The fund has also retained the Education Commission of the States and Recruiting New Teachers Inc., a nonprofit organization headquartered in Belmont, Mass., to disseminate the model and has commissioned a design principles monograph from the external evaluators to provide guidelines for educators. This monograph will also contain information on the cost of replicating a Pathways-type program. Pathways evaluators and staff of the projects have made several presentations at national conference to describe the model and evaluation results. Journal articles have been published on Pathways. The evaluators and staff also made a presentation to the staff of the House Committee on Education and the Workforce prior to the reauthorization of Title II of the Higher Education Act which resulted in the incorporation of elements of the Pathways model into projects funded by the Department of Education under Title II.

Comparison of State and Local Recruitment Efforts

In comparing state and local teacher recruitment efforts, a few differences emerge. One natural difference stems from the relative scale of state and local efforts. State programs, in general, have more funding, larger collaboration networks, and more participants than local programs. For example, Troops to Teachers has helped place over 3,000 new teachers since 1994 (Feistritzer, et al., 1998). No locally-originated program has placed so many. State programs have a potential to reach more participants than do local efforts, with the exception of national programs administered through localities.

Partnership structures of state programs tend to be more complex than local program structures. At the state level there is an additional layer of bureaucracy above the local level, resulting in multi-tiered administrative systems in state programs. The structure of a state program may include a supervisory group commissioned by the governor, a group of state universities and colleges, local districts, and teachers at individual schools (South Carolina's Center for Teacher Recruitment has this structure). State programs also have broader geographic jurisdiction than localities, and feature bigger district collaborations (such as the South Carolina program implemented in 75 percent of the districts in the state [Bond, 1997]). Locally-run programs generally have partnership structures with fewer layers and fewer members.

States have authority to enact policy changes, while local entities have no such authority. Policy actions, such as the provision of incentives including signing bonuses, loan forgiveness, and effectiveness, or longevity-based salary structures are more likely to be undertaken by states than by localities. Reciprocal agreements about credential portability require state level authority. These tools are not available to locally-sponsored programs.

Another difference between state and local efforts is in the programs' ability to focus on specific target populations. Local programs which collaborate with a particular district to fill a teacher shortage have discrete information about what kinds of teachers (in terms of subject area or gender or ethnicity) will best address local needs. States, on the other hand, must train new teachers to fill differing needs in districts all over the state and are less likely to be able to pinpoint narrow target populations.

Finally, state programs have broader scope for dissemination of successful models than do local programs. In California, for example, a successful model for recruiting minority teachers based at a state university was replicated at all 20 state university campuses within two years after the initial trial (McLevie, 1994). Similarly, Troops to Teachers, administered in 21 states by state assistance offices can rely on its national reputation to attract participants (Feistritzer, et al., 1998). Another program with far reaching dissemination success, the South Carolina Center for Teacher Recruitment, has exported its model to 17 other states. Local programs do not command audiences or resources of that scale, unless they are national programs implemented at the local level.

Chapter 7: Implications for Evaluation of Teacher Recruitment Programs

Quality of Research and Data

In examining the available evaluation data on teacher recruitment programs, it is clear that there is far more experimentation going on in states and localities across the country than is being reported in the literature. One issue of immediate concern is that evaluation results of model programs are not being shared via evaluation reports with other researchers and practitioners, and thus valuable information about successful strategies is being lost. State and local programs should be encouraged to identify intermediate and long-term outcomes and design evaluations to assess change. Evaluation results are most useful when they are written up and made available to the field. Although we can understand the reluctance of programs to share results that are not positive with the general public, these results are just as useful as successful evaluations in advancing the knowledge base about teacher recruitment strategies. This review of published literature revealed a critical lack of outcome-oriented data about teacher recruitment efforts. Researchers, policy makers, and program administrators have an interest in increasing the amount and quality of published research and data.

The evaluations that we reviewed ranged from well-designed, well-executed studies to simple compilations of data on enrollment, attrition and completion of participants (in a few cases unrelated to stated program outcomes or goals). We understand that for some programs the latter type of information is all that is required for accountability purposes. Investing in larger, more complex evaluations might be seen as expending funds that could be better spent on service delivery. Rather than comment on evaluations that were prepared for internal purposes only and whose administrators or evaluators were kind enough to share with us, we prefer to confine our remarks to the quality of evaluations in general and discuss this topic in the following sections on key issues and recommendations.

Key Issues to Address in Evaluating Teacher Recruitment Efforts and Recommendations to PES

As mentioned above, our review of the evaluations of state and local teacher recruitment programs reveals the need for more frequent, and more rigorous evaluation of programs. The following key issues and recommendations emerged from our review of the literature on teacher recruitment and our own experiences as evaluators of teacher recruitment programs.

Program Goals and Outcome Measures

Program goals should be measurable, and appropriate outcomes should be identified to measure them. Particularly where different entities collaborate in the development and implementation of programs, all parties should agree on stated goals.

In the design of program evaluations, intermediate and long-term outcomes should be matched to program goals. For example, if one of the goals of a program is to recruit teachers who remain in the teaching profession, a long-term outcome might be retention in teaching for a specified period of time. If, on the other hand, the goal is to recruit teachers who remain in teaching in high-poverty, urban districts, an appropriate long-term outcome would the retention of graduates who have continued teaching in high-poverty, urban districts for a specific period of time. Appropriate outcome measures should also be developed to measure progress toward goals. For teacher cadet type programs, for example, appropriate measures of progress might be graduation from high school, enrollment in college, and choice of a teacher education major.

In addition to the quality of the teachers recruited, teaching effectiveness has become an important outcome in assessing the success of these programs, but constructing appropriate measures for teacher effectiveness is challenging. Some evaluators have relied on principals' ratings of teachers, but then the question becomes "effective compared to whom?" Evaluators have tried to address this issue by requesting that principals rate graduates of programs in comparison to other teachers who are similar to the program participants in some way (for example, other novice teachers or newly certified teachers). In discussing this issue, Andrew and Schwab (1995) review the literature on the validity of principals' ratings of teacher performance and conclude, "Evidence exists showing substantial agreement of principals' ratings and teachers' self-ratings of performance." They also argue that because principals are responsible for formal evaluation of teachers and have access to informal comments on their teaching from many others for an extended period of time, the use of principal ratings using a rating scale can be an appropriate approach "to gain a general assessment of teacher education programs and of the competence of a group of graduates of teacher education programs." The evaluators of the Pathways Programs have approached this difficult task by using a series of similar measures to assess longitudinally the teaching effectiveness of Pathways graduates: field supervisor ratings, principal ratings, and a performance assessment (Praxis III) at different points in a continuum, thus comparing these data on effectiveness.

Another approach to measuring teaching effectiveness is to compare the achievement gains (as measured by standardized test scores) of students taught by graduates of programs compared with the achievement of students taught by other teachers (who have, presumably, similar levels of experience). One difficulty here is ensuring that both the conditions of teaching and the student samples are matched with similar characteristics. Another is attributing specific characteristics of recruitment programs (i.e., academic training, support services, induction strategies) to the gains students make in academic achievement. Unknown factors also include the talent that individual students and teachers bring to their subjects. It is extremely difficult to trace the direct effects of the series of events that must take place before an effective teacher can stand before a class, ready to teach. Individuals who have the potential to be effective teachers must first be recruited, then well prepared and supported through completion of a teaching degree and certification, then placed in a teaching job, before they can even begin to influence student achievement. Several years must elapse before

this ultimate connection between teacher and student can be made. Teacher recruitment programs cannot be evaluated in the short term based on student achievement data.

Collection of Quantitative Data

Data collection can be difficult and plans for evaluation must fit within the project's budget. The data collection plan should be developed at the beginning of the project, to ensure available data are captured and collection procedures are in place as early in the program as possible.

Where data are difficult to collect, programs offering incentives for participants (scholarships, stipends, loan forgiveness, etc.) may be wise to use a "carrot and stick" approach to collecting data. Some projects had survey response rates as low as 20 percent. Measures to raise such low response rates should be examined, including follow-up efforts with non-responders and withholding incentives for participants who do not comply with evaluation efforts. In cases in which evaluators of several projects that are a part of a larger program are dependent on individual projects for data, funders should build some responsibility for the collection of evaluation data into contractual agreements with individual sites. A brief training session for sites regarding data collection might also be helpful to ensure the quality of data collected.

Confidentiality is important when working with teacher and student data. Collecting data from minors requires parental permission, and gaining access to district- and school-level data can be difficult. These data collection issues should be anticipated and resolved at the beginning of the project, so that sufficient data are available for program evaluation. In view of the extensive use of state and district- and school-level data in evaluations commissioned or executed by district agencies, we recommend that permission be sought by private evaluators for similar access to these data. Such access can increase the accuracy of data collected as well as reduce cost.

For programs with long-term goals another critical issue is longitudinal data collection. Almost all of the programs reviewed had long-term outcome goals, but few reported data (or plans to collect data in the future) which could be used to assess progress toward those goals. Program administrators might consider using tracking systems to follow participants for several years (as two projects have attempted to do) in order to determine if teacher recruitment programs do in fact relieve teacher shortages or improve teacher quality or retention in the long run. Funding to conduct long-term tracking could be built into the evaluation grant or program funds and should include some type of incentive for respondents.

Use of Qualitative Data

Qualitative data can be useful in providing descriptive information about program implementation and other areas that might help evaluators to interpret the quantitative data collected on outcomes. In evaluations of model programs, qualitative data in the

form of case studies and documentation reports are especially important in order to document components of successful models so that they can be replicated.

Evaluation Design

Another issue to be considered is evaluation design. Seven of 19 reviewed evaluations featured a quasi-experimental design,[38] the standard for rigorous evaluation (we are assuming that experimental design is out of the question). Three other evaluations used pre- and post- treatment assessment measures, which are also useful (although not as robust) in identifying positive outcomes correlated with program activities. The remaining nine evaluations had post-only data collection.

Identifying appropriate comparison groups can be problematic and care should be taken to ensure that comparison groups are similar in all the important ways to the experimental group.[39] Another approach to using comparison groups is to compare the experimental group to a national sample. Evaluations that measure change via pre- post data should test the significance of differences via standard statistical tests of difference.

If recommendations about evaluation design and data collection described above are carried out, state and local programs will have more, and better quality data on which to base their assessments about the effectiveness of programs and particular strategies. These assessments can then show how the nation can meet current and future needs for qualified teachers.

[38] As described in a previous section, these quasi-experimental designs involved comparison groups from national databases and studies as well as groups of traditionally trained teachers from district databases.
[39] For example, comparison groups should be matched in terms of racial and ethnic composition, socioeconomic status, years in teaching, educational level, student demographics, classroom resources, classroom context, and other factors.

Chapter 8: Meeting the Need for Teachers: Implications of Findings for Teacher Supply

What Do the Findings Tell Us?

A number of implications pertaining to the teacher supply can be drawn from the findings of the literature review. There are useful data at the national level on sources of teacher supply. These data indicate four main sources of supply—newly prepared teachers, delayed entrants, transfers, and reentrants—and track fluctuations in the contributions of each source over a period of time.[40] Most recent data show an increase in new teacher graduates. The data also reflect a change in the profile of these new graduates, who are more likely to begin a teacher preparation program at the postbaccalaureate level and who begin this preparation with degrees in noneducation fields. This is valuable information for policy-makers or practitioners in identifying target populations for recruitment programs. How many policy-makers or practitioners, however, actually use this type of data in formulating plans to recruit teachers?

Second, there is a need to determine the supply and demand of teachers at the state and local levels. Disaggregating data at these levels and by geographic region, specialty, and teacher characteristics, allows districts and states to target their specific needs, resulting in more effective use of recruitment funds.

Third, there is a lack of evaluation data on the effectiveness of existing models of teacher recruitment. In spite of this, however, successful strategies and models have been identified and can be replicated.

This review of the literature on teacher recruitment also illustrates the disconnected nature of state, local and private initiatives on the teacher recruitment. In spite of the available information on teacher supply and demand and the numerous efforts to recruit teachers at the state and local levels, there has been little attempt to develop a coherent, holistic plan to address this problem.

What Implications Can Be Drawn from these Findings?

First, information on supply and demand must be coordinated to yield an accurate assessment of needs (in terms of shortage areas and numbers of teachers needed to fill shortages) and sources of supply (pools from which potential teachers can be drawn).[41] The quantity and quality of people in each of the pools are important considerations in identifying the appropriate pool(s) from which to recruit. Local officials overseeing recruitment efforts should ask: Are there enough individuals in the pool who possess the

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[40] See page 6 for a description of these teacher supply sources and a discussion of the shifts in the source of newly hired teachers over the years.

[41] Little has been done, for example, to increase the percentage of teacher education graduates who go directly into teaching after graduation, even though 40 percent of these graduates are lost (even temporarily) to the profession. A look at the data on teacher supply might suggest this group as a target for recruitment programs to help them make the transition into the teaching force.

relevant characteristics to meet the need identified?[42] Needs assessments and plans to fill these needs should be undertaken by local districts and information aggregated and coordinated at the state level in a state plan.

Second, once needs and sources of supply to fill these needs are identified at the local level then aggregated at the state level, a comprehensive plan (see Figure 1 on page 76) integrating federal and state policies as well as recruitment strategies and programs should be developed. We believe leadership for developing and coordinating such a plan should come from the U.S. Department of Education in collaboration with the State education agencies. (Too often policies and programs have been crafted without thought of how they fit with other policies and programs. This plan should take into account existing policies and programs, and, if necessary, modify them). Using input from the state plans (which are an aggregation of the district and local plans), the comprehensive plan should articulate a national recruitment strategy. Current research on effective recruitment practices should also be incorporated into such a plan.

Third, SEAs then should build on the national comprehensive plan to craft strategies and programs at the statewide level that are responsive to the needs identified by the local districts. These strategies could involve developing state recruitment policies such as offering loan forgiveness, increasing teacher salaries, adjusting salary schedules, providing signing bonuses, and allowing portable pensions. Statewide recruitment programs such as the South Carolina Teacher Cadet Program and the California State University Teacher Diversity Programs might also be established.

Fourth, local education agencies should then, in turn, build on state policies and programs in developing their local initiatives for recruiting teachers. These initiatives should focus specifically on filling local needs for teachers.

Fifth, at state and local levels a continuous monitoring and evaluation loop should be established to provide formative data that will improve programs. Evaluation data should be periodically collected at both state and local levels on intermediate and long-term program outcomes to assess whether or not the general approach is yielding the desired results and, if not, why not. Data collected through such evaluations are critical for identifying effective models to be replicated nationally. In addition to informing program practice, these data should contribute to current research on effective practices, which, in turn will influence revision of the comprehensive national teacher recruitment plan.

Any comprehensive teacher recruitment plan should work simultaneously on recruitment and retention of teachers in the teaching force. Induction policies and programs should be part of the overall plan. Recruitment programs should be assessed in

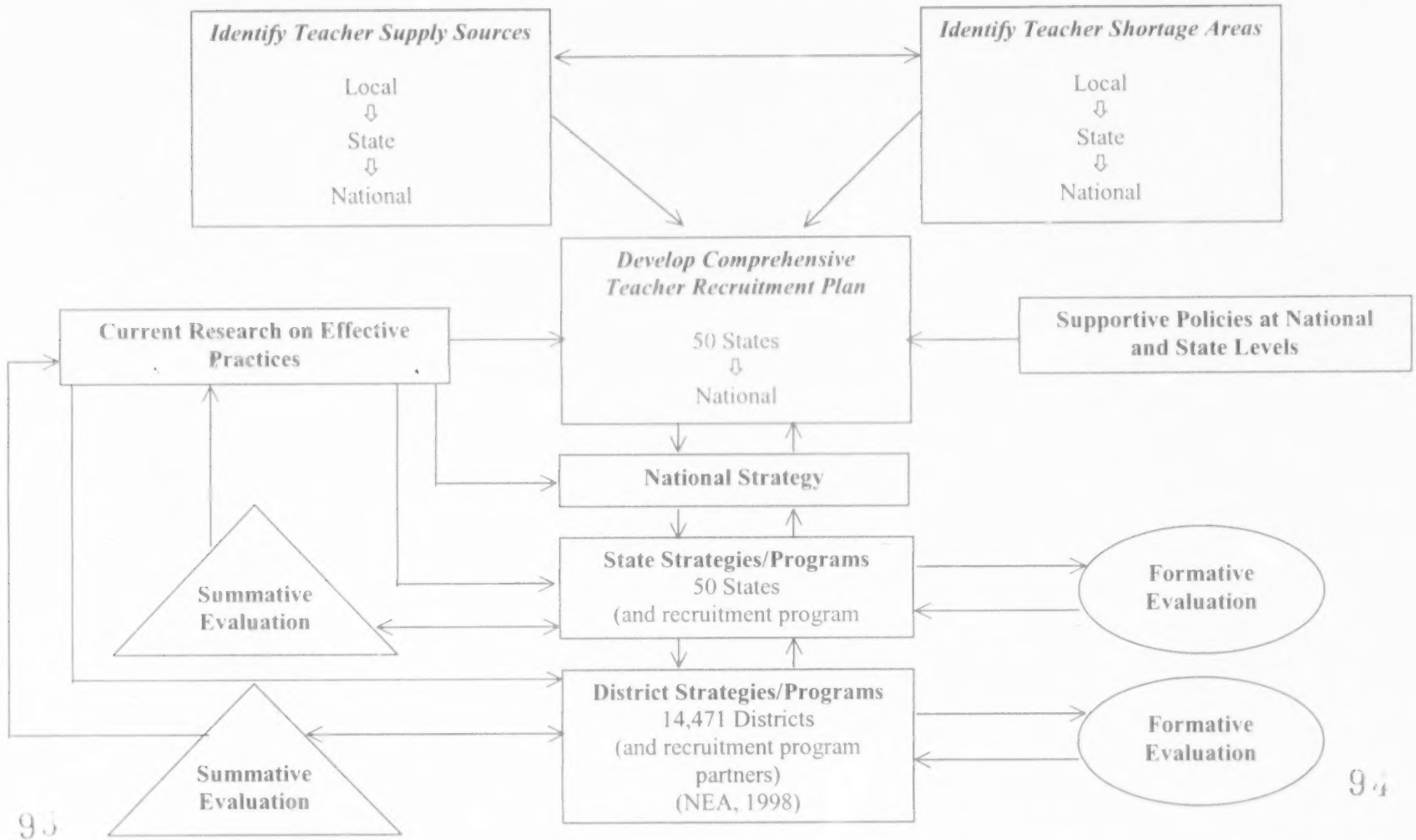
[42] For example, if a district identifies a need for bilingual teachers, a survey of district employees may show that the largest concentration of bilingual employees with teaching experience in a bilingual classroom are bilingual teacher aides. The survey may also show that a large percentage of these aides already have 60 college credits. This information may lead the district to target its recruitment efforts on teacher aides employed by the district.

terms of whether or not they produce teachers who remain in teaching in high-need districts or areas where shortages are chronic. Ensuring teacher quality should be the goal of such a plan. The effectiveness of teachers recruited by programs should also be a measure of their success.

Implementation of a comprehensive teacher recruitment plan requires not only the integration of resources, policies and programs at the national, state, and local level but also the collaboration of a variety of players. These include the U.S. Department of Education, the SEAs, LEAs, teacher education programs at universities and colleges, teacher unions, and others. Effective partnership structures are important components of successful recruitment initiatives.

Finally, once an effective pipeline is created to ensure an adequate supply of teachers, states and districts should look beyond the immediate goals of addressing shortages. Long term goals might include assuring an adequate and constant supply of effective teachers for hard-to-fill positions, such as those in rural or urban schools; producing teachers who will be leaders in education reform; preparing teachers (regardless of racial and ethnic background) to be effective instructors of diverse student populations; and changing the infrastructure of institutions—colleges and universities, state education agencies, school districts, and schools—to encourage a seamless process of attraction into teaching, quality preparation, and placement in the classroom of teachers who will see teaching as their life's work.

Figure 1. Comprehensive Plan for Teacher Recruitment[43]



[43] Formative evaluations monitor program implementation and achievement of goals and objectives. Summative evaluations monitor program impact and effectiveness.

References

Adams, G. J. and Dial, M. (1993). "Teacher survival a Cox regression model." *Education and Urban Society, 26*, (1), 90-99.

American Association of Colleges for Teacher Education. (1997). *Teacher Education Policy in the States: A 50-State Survey of Legislative and Administrative Actions*. Washington, D.C.: Author.

Andrew, M. and Schwab, R. (1995). "Has reform in teacher education influenced teacher performance? An outcome assessment of graduates of an eleven university consortium." *Action in Teacher Education, 17* (3), 43-53.

Arnold, G.H. and Sumner, P. (1992). "The best and brightest should be teachers: North Carolina's Teaching Fellows Program." *Teacher Educator 28*, (1), 2-6.

Berry, B. (1995). *Keeping Talented Teachers: Lessons Learned from the North Carolina Teaching Fellows*. Raleigh, N.C.: North Carolina Teaching Fellows Commission.

Blair, J. (1999). "States strive to lure retired teachers." *Education Week, 19* (1), 22-23.

Boe E. E. and Gilford, D.M. (1991). *Teacher Supply, Demand and Quality: Policy Issues, Model and Data Bases*. Washington, D.C.: National Academy Press.

Bond, S. (1997). *1996 Evaluation of EIA-Funded Teacher Recruitment Initiatives: MATE, SC-PRRRMT, and SCCTR*. Durham, N.C.: Horizon Research, Inc.

Burns, P.K. (1997). *South Carolina Center for Teacher Recruitment Programmatic Evaluations*. (Unpublished report).

Cabral, A. and Cabral, C.J. (1999). *South Carolina Center for Teacher Recruitment-Programmatic Evaluation 1997-1998*. Unpublished report: Carolina Technotics, Inc.

Carnegie Forum on Education and the Economy. (1986). *A Nation Prepared: Teacher for the 21st Century*. Washington, D.C.: Author.

Charters, W. W. (1970). "Some factors affecting teachers' survival in school districts." *American Educational Journal, 7*, 1-21.

Chesek, F. (1998). *Teachers for Chicago: Status Report*. Unpublished report.

Clewell, B.C., Anderson, B.T., Bruschi, B.A., Goertz, M.E., Joy, M.F., and Villegas, A.M. (1995). *Increasing Teacher Diversity: Current Practices of the Ford Foundation Minority Teacher Education Demonstration Program.* Washington, D.C.: The Urban Institute.

Clewell, B.C. and Villegas, A.M. (1998). "Increasing the number of teachers of color for urban schools: Lessons from the pathways national evaluation." *Education and Urban Society, 31*(1), 42-61.

Clewell, B.C., et al. (1997). *DeWitt Wallace–Reader's Digest Fund Pathways to Teaching Careers Program Evaluation-Third Year Report.* Washington, D.C.: The Urban Institute.

Clewell, B.C., Villegas, A.M., et al. (Forthcoming). *Pathways Design Principles: Building Blocks for Effective Programs.*

Cole, B.P. (1986). "The black educator: An endangered species." *Journal of Negro Education, 55* (3), 326-334.

Coley. R., & Thorpe, M. (1986). "A look at the M.A.T. model of teacher education and its graduates: Lessons for today." Princeton, N.J.: Educational Testing Service.

Cornett, L. (1990). "Alternative certification: State policies in the SREB states." *Peabody Journal of Education, 67* (3), 55-83.

Darling-Hammond, L., Berry, B.T., Haselkorn, D., and Fideler, E. (1999). "Teacher recruitment, selection, and induction; policy influences on the supply and quality of teachers." In Darling-Hammond, L., and Sykes, G. (Eds.), *Teaching as the Learning Profession: Handbook of Policy and Practice.* San Francisco: Jossey-Bass Publishers.

Defense Activity for Nontraditional Education Support (DANTES). (1999). *Troops to Teachers Information Packet.* Unpublished information packet: Author.

ECS. (1999) *Teacher Pipeline Snapshots for 14 States.* Unpublished: Author.

ECS Information Clearinghouse. (1998). *1997-1998 State Issues Report.* Retrieved September, 1999 from World Wide Web: www.ecs.org/ecs/ecsweb.nsf.

ECS Information Clearinghouse. (1999). *Teacher Recruitment-Legislative Summary: Trends in Teacher Recruitment.* Retrieved August, 1999 from World Wide Web: www.ecs.org/ecs/ecsweb.nsf.

Ehrenberg, R.G., Goldhaber, D.D. and Brewer, D. J. (1995). "Do teachers' race, gender and ethnicity matter? Evidence from the National Educational Longitudinal Study of 1988." *Industrial and Labor Relations Review, 48*, (3), 547-561.

Ehrenberg, R.G. and Brewer, D.J. (1995). "Did teachers' verbal ability and race matter in the 1960s?" Coleman revisited. *Economics of Education Review, 14*, (1), 1-21.

Eubanks, S. (1996). *The Urban Teacher Challenge: A Report on Teacher Recruitment and Demand in Selected Great City Schools*. Belmont, Mass.: Recruiting New Teachers, Inc.

Feistritzer, C.E. (1993). "National overview of alternative teacher certification." *Education and Urban Society, 26*, (1), 18-28.

Feistritzer, C.E. (1999). *The Making of a Teacher: A Report on Teacher Preparation in the U.S.* Washington, D.C.: Center for Education Information.

Feistritzer, C.E., Hill, M.D., and Willet, G.G. (1998). *Profile of Troops to Teachers*. Washington, D.C.: National Center for Education Information.

Feistritzer, E.D. (1983). *The Condition of Teaching: A State by State Analysis*. Princeton, N.J.: Princeton University Press.

Gallegos, B. (1995a). "Teachers for Chicago: Ensuring urban teachers with class." *Phi Delta Kappan, 76*, (10), 782-785.

Gallegos, B. (1995b). "Urban alternatives." *The American School Board Journal, 182*, (3), 38-40.

Geer, B. (1966). "Occupational commitment and the teaching profession." *School Review, 74*, 31-47.

Gilford, D.M. and Tennenbaum, E. (Eds.) (1990). *Precollege Science and Mathematics Teachers: Monitoring Supply Demand, and Quality*. Panel on statistics on supply and demand for precollege science and mathematics teachers. Committee on National Statistics. Washington, D.C.: National Academy Press.

Graham, P.A. (1987). "Black teachers: A drastically scarce resource." *Phi Delta Kappan, 68* (8), 598-605.

Gutknecht, B., Fountain, C., Kaye, D., Keenan, D., D'Zamko, E., and Whittemore, G. (1992). *Preparation of Minority Educators (PREMIER): A Public School/ Community College/University Collaborative Program*. Paper presented at the Annual Meeting of the Association of Teacher Educators, Orlando, Fla., February 15-19.

Hirsch, E., Koppich, J.E., and Knapp, M.S. (1998). *What States are Doing to Improve the Quality of Teaching: A Brief Review of Current Patterns and Trends.* Working Paper of the Center for the Study of Teaching and Policy: University of Washington.

Howey, K.R. and Zimpher, N.L. (1996). "Patterns in Prospective Teachers: Guides for Designing Preservice Programs." In Murray, F.B. (Ed.) *The Teacher Educator's Handbook.* San Francisco, Calif.: Jossey-Bass.

Hussar, W.J. (undated). *Predicting the Need for Newly Hired Teachers in the United States to 2008-2009.* Unpublished manuscript. National Center for Education Statistics.

Ingersoll, R. (1999). *Teacher Turnover, Teacher Shortages, and the Organization of Schools: A CTP Working Paper.* University of Washington, Center for the Study of Teaching and Policy.

Ingersoll, R. and Bobbit, S. (1995). *Teacher Supply, Teacher Qualifications, and Teacher Turnover (1990-91).* Washington, D.C.: National Center for Education Statistics.

Irvine, J.J. (1988). "An analysis of the problem of the disappearing black educator." *Elementary School Journal, 88* (5), 503-514.

Jacullo-Noto, J. (1991). "Minority recruitment in teacher education: Problems and possibilities." *Urban Education, 26,* (2), 215-231.

Jones, D.L. and Sandidge, R.F. (1997). "Recruiting and retaining teachers in urban schools: Implications for policy and the law." *Education and Urban Society, 29,* (2), 192-203.

Kamin, C. (1999). *Evaluation Report for Teachers for Chicago.* (Unpublished report).

Kane, Parsons & Associates, Inc. (1999). *A Survey of Principals in Schools with Teach for America Corps Members: Report on Findings.* (Unpublished report).

King, S.H. (1993). "The limited presence of African-American teachers." *Review of Educational Research, 63* (2), 115-149.

Kirby, S.N., Grissmer, D.W. and Hudson, L. (1991). *Entering and Reentering Teachers in Indiana: Source of Supply.* R-4049-LE. The RAND Corporation.

Kirby, S.N., Darling-Hammond. L. and Hudson, L. (1989). Nontraditional recruits to mathematics and science teaching. *Education Evaluation and Policy Analysis,* 11, (3), 301-323.

Manzo, L., et al. (1994). *Scholarship Program, Follow-Up Evaluation, 1992-1993.* New York: New York City Board of Education.

Mark, J.L., & Anderson, N.F. (1977). "Teacher survival rates: A current look." *American Educational Research Journal, 15(3),* 379-383.

Mateu-Gelabert, P. (1993). *The 1992-1993 Evaluation of the Loan Forgiveness Program (Revised).* New York: New York City Board of Education.

McLevie, J. (1994). *Teachers for California's Schools in the 21st Century: Effective Recruitment and Support Programs.* Sacramento, Calif.: California Commission on Teacher Credentialing.

Mercer, W.A. and Mercer, M.M. (1986). "Standardized testing: Its impact on blacks in Florida's educational system." *Urban Educator, 8* (1), 105-113.

Michael-Bandele, M. (1993). Who's Missing from the Classroom: The Need for Minority Teachers-Trends and Issues. *Monograph of American Association of Colleges for Teacher Education.* Washington, D.C.: AACTE.

Morgan, J. (1998). *Designing and evaluating appropriate training for an alternative teacher certification program.* Unpublished doctoral dissertation, Nova Southeastern University, Fort Lauderdale, Fla.

Morgan, J. (1999). *The Development and Evaluation of the Houston ISD Alternative Certification Program.* Los Angeles, Calif.: Tomas Rivera Policy Institute, Forthcoming.

Murnane, R.J., Singer, J.D., and Willet, J.B. (1988). "The career paths of teachers: Implications for teacher supply and methodological lessons for research." *Educational Researcher, 17,* (6), 22-30.

National Association of State Directors of Special Education; Clearinghouse for Professions in Special Education. (1990). *Teach for America: Information Bulletin #34.* Washington, D.C.: Author.

National Center for Education Statistics. (1990). *New teachers in the market, 1987 update.* Washington, D.C.: U.S. Department of Education.

National Center for Education Statistics. (1997). *Common Core Data. "Public Elementary/Secondary School Universe" survey, 1993-94, and "Public Elementary/Secondary Education Agency Universe" survey, 1993-94.* Available: www.nces.ed.gov/ pubs/96212.html.

National Commission on Teaching & America's Future. (1996). *What Matters Most: Teaching for America's Future*. New York: Author.

National Education Association. (1987). *Status of American Public School Teacher 1985-85*. Washington, D.C.: Author.

National Education Association. (1998). *American Education Statistics At a Glance*. Washington, D.C.: Author.

Natriello, G. and Zumwalt, K. (1993). "New teachers for urban schools? The contribution of the Provisional Teacher Program in New Jersey." *Education and Urban Society, 26* (1), 49-62.

Rollefson, M.R. (1992). *Sources of Newly Hired Teachers in the U.S.: Results of the 1987-88 Schools and Staffing Survey*. Paper presented at the NCES Annual Data Conference, Washington, D.C., July, 1992.

Rollefson, M.R. and Broughman, S. P. (1995). *Teacher Supply in the United States: Sources of Newly Hired Teachers in Public and Private Schools*. Washington, D.C.: National Center of Education Statistics.

Schlechty, P.C. & Vance, V. (1983). "Recruitment, selection and retention: The shape of the teaching force." *Elementary School Journal, 83*, 469-87.

Schmidt, P. (1992). "Shortage of trained bilingual teachers is focus of both concern and attention." *Education Week, February 12, 1992:14*.

Schulman, J. (1990). *Project TEACH: Teacher Education: A Career Headstart*. Long Island, N.Y.: LaGuardia Community College.

Shields, P.M., Esch, C.E., Humphrey, D.C., Young, V.M., Gaston, M. and Hunt, H. (1999). *The Status of the Teaching Profession: Research Findings and Policy Recommendations. A Report to the Teaching and California's Future Task Force*. Santa Cruz, Calif.: The Center for the Future of Teaching and Learning.

South Carolina Center for Teacher Recruitment. (1998a). *Annual Report 1997-1998*. Unpublished report: Author.

South Carolina Center for Teacher Recruitment. (1998b). *Strengthening the Profession that Shapes South Carolina's Future Teaching*. Retrieved September, 1999 from World Wide Web: www.scctr.org.governorsreport.htm.

Stoddart, T. (1990). "Los Angeles Unified School District Intern Program: Recruiting and preparing teachers for an urban context." *Peabody Journal of Education, 67*, (3), 84-122.

Stoddart, T. (1993). "Who is prepared to teach in urban schools?" *Education and Urban Society, 26* (1), 29-48.

Teach for America. (Undated). *Impact Measures.* Unpublished information sheet: Author.

Teach for America. (1999). *Who We Are.* Retrieved October, 1999, from World Wide Web: http://www.teachforamerica.org/about/whoweare.htm.

U.S. Department of Commerce. (1996). *Current Population Reports: Population projections of the United States by age, sex, race, and Hispanic origin: 1995 to 2050.* Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Education. (1999). *A Guide to States for the Preparation of Applications for State Grants and Teacher Recruitment Grants.* Washington, D.C.: Author.

Villegas, A.M. (1997). "Increasing the racial and ethnic diversity of the U.S. teaching force." In Biddle, B. (Ed.) *International Handbook of Teaching and Teachers.* The Netherlands: Kluwer Academic Publishers.

Villegas, A.M. and Clewell, B.C. (1998). "Increasing the number of teachers of color for urban schools: Lessons from the Pathways national evaluation." *Education and Urban Society, 31.* (1), 42-61.

Warshaw, M.B. (1992). *Aide-to-Teacher Project: Building Partnerships for Faculty Diversity.* Dominquez Hills, Calif.: Consortium for Minorities in Teaching Careers.

Whitener, S.D., Gruber, K.J., Lynch, H., Tingos, K., Perona, M., and Fondelier, S. (1997). *Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Follow-up Survey: 1994-95.* Washington, D.C.: National Center for Education Statistics.

Worner, R.B. (1991). *Minority Teacher Recruitment, Preparation, and Retention.* St. Paul, Minn.: Minnesota State Department of Education, St. Paul Equal Educational Opportunities Section.

Yopp, H.K., Yopp, R.H. and Taylor, H.P. (1991). "The teacher track project: Increasing teacher diversity." *Action in Teacher Education, 8,* (2), 36-42.

Yopp, H.K., Yopp R.H. and Taylor, H.P. (1992). "Profiles and viewpoints of minority candidates in a teacher diversity project." *Teacher Education Quarterly, Summer 1992,* 29-48.

Zimpher. (1989). "The RATE project: A profile of teacher education students." *Journal of Teacher Education, Nov-Dec,* 27-30.

Supplemental Statistical Reference List

Kachigan, S. K. (1986). *Statistical Analysis: An Interdisciplinary Introduction to Univariate & Multivariate methods*. New York:Redius Press.

Merten, D. (1998). *Research Methods in Education and Psychology: Integrating diversity with qualitative & quantitative approaches.* Thousand Oaks, Calif.: Sage Publications.

Runyon, R.P., & Haber, A. (1976). *Fundamentals of Behavioral Statistics*. Reading, Mass.: Addison-Wesley.

StatSoft, Inc. (1999). Electronic Statistics Textbook. Tulsa, Okla.:StatSoft. Web:http://www.statsoft.com/textbook/stathome.html. (includes statistical glossary)

APPENDIX A: LIST OF INTERNET RESOURCES

List of Internet Resources

This Internet resource list is designed to provide an additional reference tool for administrators and grantees of the Title II teacher recruitment programs. Some of the Web sites or pages listed below contain information concerning the recruitment programs we discuss in the review. Other listed sites contain information that may also prove useful in the implementation of the teacher recruitment grants.

California State Universities—Teacher Diversity Projects
http://www.calstate.edu/tier3/budget/1998_99BudIndex/98_99_LottInfo/9899LottBud/TRP9798.html

This page provides a brief general description of the California Teacher Recruitment (Teacher Diversity) Projects. Contact information is provided.

California State University, Domiguez Hills—Teacher Diversity Aide to Teacher Program (ATT) http://www.csudh.edu/soe/index.htm

This page provides only a brief description of Aide to Teacher Program, but contact information is provided. Also on this page, (which can located by clicking on the "Projects, Programs, Grants, Partnerships" link on the university's School of Education site), brief descriptions and contact information for many other teacher educator programs at California State University, Domiguez Hills are provided.

The Center for the Future of Teaching and Learning http://www.cftl.org/

The center is a California-based, private nonprofit research organization dedicated to turning the teaching practices that are known to work into teaching practices that are widely used. Their site provides a fully downloadable version of their December 1999 report, *The Status of the Teaching Profession: Research Findings and Policy Recommendations. A Report to the Teaching and California's Future Task Force.*

Chicago Public Schools—Teachers for Chicago
http://www.cps.k12.il.us/AboutCPS/Departments/tacademy/Teachers_for_Chicago/teachers_for_chicago.html

This page, located on the Chicago Public Schools Web site, provides a brief description of the Teachers for Chicago program and telephone and e-mail contact information.

DeWitt Wallace—Readers' Digest Fund http://www.wallacefunds.org/dewittframesetmap.htm

The Grantmaking and Evaluation page of the DeWitt Wallace—Readers' Digest Fund Web site briefly describes their teacher recruitment program "Pathways to Teaching Careers" and provides a link to a monograph entitled, *Recruiting, Preparing and Retaining Teachers for America's Schools*, which further describes the initiative, reports interim findings from the Pathways evaluation, and includes contact information for all 42 Pathways sites in Appendix B of the monograph.

Educational Resources Information Center (ERIC) http://www.accesseric.org/

Funded by Office of Educational Research and Improvement, ERIC is a nationwide information network that acquires, catalogs, summarizes, and provides access to education information from all sources. From the above home page, the ERIC Clearinghouses can be accessed. The clearinghouses collect, abstract, and index education materials for the ERIC database; respond to requests for information in their subject specific areas; and produce special publications on current research, programs, and practices.

Houston Independent School District—Alternative Certification Program
http://www.houstonisd.org/acp/default.htm

This site, an extension of the Houston Independent School District Web site (http://www.houstonisd.org/), provides information about the program, staff contact information. The site also has a teacher discussion feature where items pertinent to ACP participants can be posted and "discussed."

Los Angeles Unified School District Intern Program
http://certificated.lausd.k12.ca.us/cert/OLDSITE/
District_Intern_Program/district_intern_program.html

This page, located on the Los Angeles Unified School District site, provides extensive information concerning the district's intern alternative certification program. Full contact information is available at the bottom of the page.

North Carolina Teaching Fellows Program http://www.teachingfellows.org/

The North Carolina Teaching Fellows Program has a central Web site as part of the Public Schools Forum Web site. The site features an overview of the Teaching Fellows Program, information about each of the 14 campuses that participate in the program, and contact information. Each of the 14 North Carolina colleges and universities that participate in the Teaching Fellows Program also have Web sites containing program information. Most include specific contact information. Links to each of the 14 programs are provided on the teaching fellows site.

Recruiting New Teachers (RNT) http://www.rnt.org/

This site offers insight on current trends and issues in teacher recruitment. Also provided are summaries of Recruiting New Teacher's policy research and surveys, and highlights of their publications, services, and advocacy efforts.

South Carolina Center for Teacher Recruitment http://www.scctr.org/home.htm

This Web site contains links to all South Carolina Center for Teacher Recruitment programs (including ProTeam and Teacher Cadets) with program and contact information available. Also available in fully downloadable form is, *Strengthening the Profession that Shapes South Carolina Teaching*, one of the reports that we used to inform our discussion of recruitment efforts in the states http://www.scctr.org/governorsreport.htm. This Web site may provide a useful example for programs that are interested in developing their own Internet recruitment resources.

Teachers College, Columbia University—Teacher Opportunity Corps
http://www.tc.columbia.edu/ADMINISTRATION/teachered/outreach.htm

This page, located on the Teachers College, Columbia University site, provides program information about the Teacher Opportunity Corps such as, eligibility, program goals and requirements, available financial aid, and full contact details.

Teach for America
http://www.teachforamerica.org/

This Web site provides program information (including detailed descriptions of each of the 13 locations), recruitment information, and resources for corps and alumni. For further information concerning the Teach for America program, contact Elissa Clapp, vice president, Recruitment and Selection Office at eclapp@teachforamerica.org.

Texas Education Agency http://www.tea.state.tx.us/

This Web site provides a link to the Texas State Board of Education (http://www.sbec.state.tx.us/), where program and contact information for alternative certification programs in Texas can be found. From the state board's home page, select "Information for Future Educators." From this page, following the links "Retired Military" or "Seeking Teacher Certification" will lead to the relevant alternative certification information.

Troops to Teachers http://voled.doded.mil/dantes/ttt/

This site provides basic program information and an online version of *Profile of Troops to Teachers* (http://voled.doded.mil/dantes/ttt/profile.htm), a survey research/data analysis report published by the National Center for Education Information in 1998. Also available on the site are program news and bulletins as well as features that serve to assist participants in starting out on their second career (such as Mentor Connection). This Web site may also prove a useful example for programs that are interested in developing their own Internet recruitment resources.

U.S. Department of Education *Home Page* http://www.ed.gov/ and
Other On-line Educational Resources http://www.ed.gov/EdRes/index.html

The ED Web site provides links to many valuable education resources. For example, an online version of the report, *Promising Practices: New Ways to Improve Teacher Quality* (September 1998) is available through the Department of Education Web site at http://www.ed.gov/pubs/PromPractice/. This report provides examples of programs that have implemented effective strategies in the areas of teacher recruitment, preparation, induction, and professional development. The ED Pubs online ordering system at: http://www.ed.gov/pubs/edpubs.html provides rapid access to all ED publications.

APPENDIX B:
OUTCOME DATA AND PROGRAM EFFECTIVENESS FOR STATE AND LOCAL PROGRAM EXAMPLES

Outcome Data and Program Effectiveness for State Examples

A. South Carolina Teacher Cadet Program

The South Carolina Teacher Cadet Program is run by the South Carolina Center for Teacher Recruitment. The program is aimed at encouraging academically talented or capable high school juniors with solid interpersonal and leadership skills to consider teaching as a career. The secondary goal is to educate these students about teaching, schools and social issues so they will become civic advocates of education. In recent years, math and science components have been added to encourage students to pursue teaching careers in subject shortage areas.

Program Description:

Recruitment. South Carolina Center for Teacher Recruitment runs several recruitment activities including career fairs and dedicated mailings to recruit both students as well as new Teacher Cadet school sites. The state also makes an effort to bridge the middle school component (ProTeam) with the Teacher Cadet Program. Teacher cadets must have at least a 3.0 in a college preparatory curriculum, five recommendations, and submit an essay describing their interest in the program. Since 1985-86, the program has grown from four to 145 high schools serving approximately 2,695 students. By the end of the 1997-98 academic year, almost 21,000 high school students had completed the course.

Academic Preparation. The program includes a class designed to provide an introduction to teaching.

Financial Support. Each teacher cadet class receives a grant to purchase supplies, develop curriculum materials and provide additional activities.

Support Services. Depending on the schedule, teacher cadets may participate in college visits, regional activities, receptions and conferences. Students may join two different types of clubs: the Future Teachers of America or the Student Action for Education Club and the Choices Club. The clubs are designed to prepare students for future teaching careers. The South Carolina Center and the South Carolina Education Association collaborate to encourage teachers to establish these clubs on their campuses. The center also sponsors the Choices Club, which is for campuses where no future teacher clubs exist. The Choices Club allows students to be involved in teaching-oriented activities. Membership in these clubs is not limited to Teacher Cadet students.

Program Outcomes:

Intermediate outcomes. The South Carolina Teacher Cadet program's intermediate goals are to encourage college-bound high school juniors and seniors to (1) complete high

school, and (2) attend college to pursue a major in education. Because participants selected from among college-track, high achieving students, it is difficult to understand why this population would need assistance or special encouragement to complete high school or choose to attend college. Evaluation data indicate all participants in the 1992-1993 cohort graduated from high school. No information about the proportion of participants attending college was reported.

Long-term outcomes. The long-term goals of the teacher cadet program are to help teacher cadet participants earn teaching credentials and enter the teaching force. Twenty-one percent of former cadets surveyed reported they were teaching (and therefore had earned credentials). Another 4 percent of cadet alumni were working as noncredentialed teachers' aides. Forty-one percent of those surveyed reported they were still students: 61 percent of these are enrolled in a master of arts in education, alternative certification, or undergraduate education program and may become credentialed teachers in the future.

What the evaluation data tell us about program effectiveness. The evaluation relies on self-report from a survey of teacher cadet alumni with a response rate of 20 percent. This raises the issue of potential bias in the survey data, for example, if the cadets who did not return their surveys differed in important ways from those who did return them. Logically, one might wonder if cadets who were (1) not teaching or (2) not planning to teach might not return the survey. This would raise questions about the ability to draw a conclusion about the whole population of cadets. In any case, data about this program are incomplete. More than 40 percent of the cohort studied are still in school. Data about cadets who have completed the program and entered the teaching force are sparse.

Although broadening the diversity of the teaching force is not mentioned as a goal of the teacher cadet program, the evaluator reports that the proportion of males and minority participants enrolled in the teacher cadet program is higher than that in the teaching pool. However, the proportion of teacher cadet alumni who reported being classroom teachers were 88 percent Caucasian female: similar to the national teaching pool.

Source: South Carolina Center for Teacher Recruitment, 1998b—unpublished annual report; Burns, 1997; Cabral and Cabral, 1999—unpublished evaluation.

B. South Carolina ProTeam Program

Administered by the South Carolina Center for Teacher Recruitment, ProTeam is designed to encourage exemplary middle school students to attend college and consider teaching as a career. A secondary goal is to expand the pool of minority and male teachers in the public schools in South Carolina.

Program Description:

Recruitment. ProTeam students must be in seventh or eighth grade, in the top 40 percent of their class, receive recommendations from three teachers, and demonstrate potential for

successful completion of high school and college. South Carolina Center for Teacher Recruitment runs several recruitment activities including career fairs and dedicated mailings to recruit both students and schools to participate in ProTeam. As of 1997-1998, 43 middle or junior high schools in 24 school districts offered the ProTeam curriculum to 790 students.

Academic Preparation. There are two ProTeam program models: one features a curriculum that runs for 18 weeks (one semester); the second features a year-long implementation model in conjunction with an extra-curricular club. Through the hands-on, self-exploration course students are exposed to role models and participate in teacher-like activities.

Financial Support. The South Carolina center provides each semester-long ProTeam class a $125 grant for supplies, curriculum materials, and additional activities. Year-long classes receive $250.

Support Services. ProTeam encourages parents and other family members to participate in the program workshops. There are six regional college days held across South Carolina for ProTeam students to tour campuses and talk to current and former teacher cadets (the South Carolina program for high school students interested in teaching.)

Program Outcomes:

Intermediate outcomes. Intermediate-term goals of ProTeam include: encouraging exemplary students to complete high school, improving participant's grades and behavior, and enhancing participants' self-esteem. Teachers interviewed by the evaluator reported that participating in ProTeam improves students' study skills and behavior and makes them more likely to complete high school and college. One-third of participating students indicated an interest in a teaching career at the beginning of the evaluation study, that figure rose to 39 percent at the end of the study. ProTeam students' self-image improved with regard to peers and school but declined with regard to family from pre- to post-participation.

Long-term outcomes. The long-term goals of ProTeam are to encourage participants to attend college, complete an education degree, and enter the teaching profession in order to expand the pool of minority and male teachers in South Carolina. There are no data about these long-term outcomes. However, in 1998, 65 percent of ProTeam participants were students of color. Forty percent were male. The percentage of students indicating they intended to attend a four-year college rose 0.6 percent from pre- to post-participation.

What the evaluation data tell us about program effectiveness. Evaluation data on ProTeam are limited: we do not know whether the interventions delivered were effective in encouraging participants to attend college, complete and education degree, and enter the teaching force. There are data that show the intervention did increase students' interest in teaching, and mixed results about the impact of participation on self-esteem.

Source: South Carolina Center for Teacher Recruitment, 1998b—unpublished annual report; Burns, 1997; Cabral and Cabral, 1999—unpublished evaluation.

C. South Carolina Minority Access to Teacher Education

The South Carolina Minority Access to Teacher Education Program began as research project in 1986 and developed into a teacher recruitment initiative in 1987. The teacher education initiative is designed to motivate rural, minority high school students to attend college and pursue a degree in education. In addition, the initiative seeks to increase the supply of teachers in critical geographic areas or subject areas in South Carolina.

Program Description:

Recruitment. Minority high schools students are recruited from 21 rural districts that have high proportions of economically deprived students and low academic performance. Undergraduate candidates must have a 2.75 academic average and pass a qualifying test.

Academic Preparation. There are three pipeline programs that combined, make up the program. A club called Pre-MATE Club and the Summer Residency Program serve high school students. Pre-MATE clubs are school-based. Club organizers (teachers, counselors, parents) use a standard handbook for club activities. The three-week Summer Residency Program include classes in mathematics, foreign languages, communication arts, and test-taking skills. In addition students attend seminars on topics such as college financial aid and teaching as a career. A campus visit is also included. The Minority Access to Teacher Education Program is a forgivable teacher loan program available to minority education majors at Benedict College.

Financial Support. Each Pre-MATE club receives $250 per semester to defray the cost of club activities. Upon successful completion of Summer Residency Program, each participant receives a $300 stipend to offset the loss of wages they might have earned during the three-week period. Undergraduate students who meet the qualifications of the program receive loans to pay tuition costs.

Support Services. The program and Benedict College host a High School Academic Bowl Competition Day and an annual Visitation Day for Pre-MATE members. Program staff provide scholars with individual attention to guide them through the education program at Benedict College.

Program Outcomes:

Intermediate outcomes. Intermediate-term goals of the program include encouraging minority students to complete high school and recruiting rural, minority high school students into college education programs. The numbers of participating high schools and participating students rose over the time period 1988 to 1996. No data are available to show how many participants attend college and major in education

Long-term outcomes. The long-term goal of the program is to recruit minority education majors to teach in critical geographic areas or critical subject areas (e.g. math, science, special education). Program records show that since 1988, 63 students have graduated as program scholars and 52 of them (83 percent) taught (or are teaching) in South Carolina schools for at

least three years. Available data indicate most program scholars are teaching in noncritical (or even surplus fields), e.g. early childhood education. There was no information about the number of program scholars teaching math or science or teaching in high-need rural areas.

What the evaluation data tell us about program effectiveness. No demographic information about program participants is provided in the evaluation, so we do not whether the program was effective in increasing the number of potential minority teachers. Data do indicate that the program is successful at producing teachers for South Carolina schools, as 83 percent of one cohort of participants are currently teaching in-state. However, these teachers were not likely to be teaching in critical fields, so we cannot conclude that the program effectively met its goal to meet teacher shortages in rural areas or critical subject areas.

Source: Bond, 1997—unpublished evaluation.

D. South Carolina Program for the Recruitment and Retention of Minority Teachers

Developed out of South Carolina State University's Project, the South Carolina Minority Program for the Recruitment and Retention of Minority Teachers (addresses the need to expand the minority teaching pool by recruiting and financially supporting nontraditional students in the education program at South Carolina State University.

Program Description:

Recruitment. The program targets elementary school teacher aides and technical college transfer students. The program has a full-time recruiter on staff. Recruitment activities for teacher aides are not described in the evaluation. Recruitment activities for technical college students include information booths on technical college campuses and distribution of literature that promotes teaching as career. Prospective candidates are asked to provide contact information and receive additional information about the program.

Academic Preparation. There are two distinct components of the program: the Education Entrance Exam Intervention Seminars and the Satellite Teacher Education Program. A third component, Weekend College, is not supported by program funds, but staff identify the component as an incentive for technical college recruits to participate in the program. The Intervention Seminars are designed to prepare nontraditional students for the reading, mathematics, and writing sections of the state-required Education Entrance Exam. The Satellite Teacher Education Program enables students to take most of their initial course work at satellite sites located closer to their homes and offers evening classes to accommodate students working full-time. The Weekend College offers Saturday and Sunday courses on South Carolina's State University's main campus to accommodate students who work full-time.

Financial Support. South Carolina Minority Program for the Recruitment and Retention of Minority Teachers provides forgivable teacher loans to qualified teacher aides and technical college transfer students. After acceptance into the program, students complete a financial aid

application. The program supplies enough aid to make up the difference between student's costs (tuition and books) and the amount of federal aid available to each student. For each year of aid received, students are expected to teach for one year. If student does not elect to teach, they must re-pay the loan with 8 percent interest.

Support Services. None reported.

Program Outcomes:

Intermediate outcomes. South Carolina Minority Program for the Recruitment and Retention of Minority Teachers aims to recruit nontraditional students into the education program at South Carolina State University. The program helps to prepare nontraditional students for post-secondary study by providing assistance in preparing for the state post-secondary school entrance examination. Program data show that from 1991-1996 between 10 and 40 percent of participants in the preparatory activities passed all three parts of the exam. Participation in these activities has declined over the five years 1991 t0 1996. Recruitment for the technical college transfer component of the program is described as "weak" by the evaluator. Twelve transfer students have participated in the program since 1991 (10 of whom are currently working toward degrees in education; two have dropped out of the program).

Long-term outcomes. The long-term goal of South Carolina Minority Program for the Recruitment and Retention of Minority Teachers is to place teachers in "critical needs" schools in rural areas. Program data show that between 1991 and 1996, 34 teacher aides received forgivable loans through South Carolina Minority Program for the Recruitment and Retention of Minority Teachers to study education at South Carolina State University, and by 1996 25 of the teacher aides had completed their degrees. Twenty-one were teaching as of 1996. A 1997 evaluation of the program revealed that approximately three-quarters of program graduates were teaching in rural areas, and *no program teachers were teaching in high-need fields* (e.g. math, science, special education.) No demographic information about program participants is provided in the evaluation, so we do not know how many of the participants are minorities.

What the evaluation data tell us about program effectiveness. Evaluation data show that the program did effectively produce new teachers from nontraditional populations: 84 percent of participants who have completed their education degrees are teaching. However, none of the participants are teaching in high-need fields.

Source: Bond, 1997—unpublished evaluations.

E. North Carolina Teaching Fellows Program

The North Carolina Teaching Fellows Program was proposed by the Public School Forum of North Carolina and has been funded since 1986 by the North Carolina General Assembly to recruit academically talented high school students into teaching careers. The teaching fellows program is designed to provide an academically and culturally enriched

preparation program that extends beyond the classroom experience, and that develops professional teachers who are competent leaders and decision makers. A secondary goal is to recruit and retain greater numbers of male and minority teacher education candidates in North Carolina.

Program Description:

Recruitment and selection. Top students are recruited to apply for the Teaching Fellows Program by Teacher Recruitment Officers within their high schools. Recipients must be legal residents of North Carolina and citizens of the United States. The Fellows selection process occurs at the school district and regional levels. Selection committees are composed of educational, political, and community leaders from across the state.

Academic preparation. The Teaching Fellows Program is a four-year undergraduate teacher education program which is offered at fourteen North Carolina colleges and universities. The curriculum includes school visits; hands-on investigations into the issues that define public schools; topical monthly seminars; and courses on leadership, at-risk students, and cultural diversity.

Field experience. The teaching fellows are exposed to early and extensive field experiences during the school year and the summer months. Teaching fellows travel across North Carolina to schools in a variety of geographic locations, observing rural and urban classrooms, learning about differences in cultures and economy, attending conferences, and participating in other enrichment experiences.

Financial support. Each year the program awards 400 four-year scholarships worth $20,000, to outstanding high school seniors who agree to teach for four years in one of North Carolina's public schools following their graduation from a teacher education program.

Support services. In addition to financial support, fellows are provided with an academic advisor in the liberal arts as well as a teacher educator advisor. In addition to monitoring the fellows academic progress, the advisors also serve in a mentoring capacity.

Program Outcomes:

Intermediate outcomes. The program's intermediate goal is to recruit exemplary high school students into the teaching pipeline, particularly males and racial or ethnic minorities. The average Scholastic Assessment Test (SAT) score of program participants is 240 points higher than other North Carolina college bound students. Participants also have higher high school and college GPAs than their non-participating peers. These should not be regarded as outcomes of the program, however, as high-achieving students are especially recruited to participate. Instead, these data speak to the high-quality of students recruited and to the effectiveness of recruitment strategies. Compared to all teachers in the United States, Fellows are more likely to be male and more likely to be minorities.

Long-term outcomes. The long-term goals of the program are to improve retention rates of new teachers, improve teacher effectiveness, and to increase the number of males and minorities entering the teaching profession. The evaluation data come from a survey of four cohorts of fellows, including fellows who have been out of college and teaching for one to three years and fellows currently completing their degrees. Therefore, there are no data about long-term retention in the classroom, although the survey did reveal that fellows were less likely to plan to teach until retirement than other new teachers. Evidence presented in the evaluation to suggest that fellows are more effective than other new teachers comes from surveys of currently teaching fellows and their principals. The majority of fellows reported they were "making a difference" in the lives of their students and "helped them achieve significantly." Principals rated fellows higher than other new teachers along several variables including: student discipline, curriculum, instructional methods, adjusting to the teaching environment, working with parents, site-based decision making, student assessment, and effectively working with diverse students. The proportion of males and minorities in the fellows program was higher than the national proportion of males and minorities, but the evaluation does not explicitly state whether the proportion of Fellows who go on to teach are also more likely to represent minority groups.

What the evaluation data tell us about program effectiveness. Evaluation data show that the program effectively recruited high-caliber participants, including a proportion of males and minorities above the national average of for teachers. Survey data indicate principals believe fellows teaching in their schools are more effective teachers than their non-fellow peers. It remains to be seen whether the program is effective at retaining teachers- the cohort studied in the evaluation had only been in the classroom one to three years.

Source: Berry, 1995; Arnold and Sumner, 1992.

F. California State University Teacher Diversity Programs

In response to a growing awareness of the need to diversify California's teaching force, the Board of Trustees of the California State University established pilot Teacher Diversity planning projects in 1989-90. The program was expanded to include all 20 California State University system campuses in 1990-91. Though each campus has specific objectives and intervention strategies, the overarching goal of the programs is to encourage racial and ethnic minority populations to attend one of the California State campuses and eventually earn teaching credentials.

Program Description:

Recruitment. Depending on the program, recruitment efforts may vary. For example, one program recruits instructional aides employed by collaborating school districts. Another program uses individual schools to identify minority students in grades 7-12 who might be interested in teaching.

Financial Support. The programs receive grants from the state lottery fund. Participants have access to stipends and scholarships, paid tutoring internships, and paid teacher assistant positions. Some of the participants receive financial support to attend community colleges, four year degree programs, and fifth year teacher preparation programs.

Academic Preparation. Participants receive academic support and basic skills preparation focused on remediation in subject matter content and passing the competency tests. Specific supports include tutoring, academic advising, career counseling, and supervised field experiences guided by a teacher mentor.

Program Outcomes:

Intermediate outcomes. California State University Teacher Diversity Programs' intermediate goals include preparing undergraduates for competency tests, increasing the number of paraprofessionals meeting teacher credentialing requirements, and providing advice on teaching careers to middle and high school students and undergraduates. According to the program's records, between 1989-90 and 1992-93 there was an increase in the percentage of multiple subject and single subject credentials earned among minority populations. This included an increase of 42 percent in the number of new Asian teachers earning credentials; an increase of 28 percent in the number of credentials earned by Latinos; and an increase of 10 percent in the percentage of credentials earned by Native Americans. There was a simultaneous decrease of 13 percent in the proportion of newly credentialed teachers (and California State University graduates) who were Filipino and a decrease of 20 percent in the proportion who were black. Overall, the proportion of newly credentialed teachers who were white, non-Hispanic fell by 5 percent.

Long-term outcomes. The long-term goal of the state's Teacher Diversity Programs is to increase the racial and ethnic diversity of California's teaching force. The evaluator asserted that not enough time has elapsed to measure the long-term outcome of the programs.

What the evaluation data tell us about program effectiveness. Evaluation data show that the program, overall, has improved ethnic diversity in the newly-credentialed teacher pool. There were not sufficient data to evaluate program effectiveness at achieving long-term goals.

Source: McLevie, 1994.

G. Texas Alternative Certification Programs

The first state-supported alternative certification program in Texas was initiated in a single school district in 1985 to address a local shortage of teachers. By 1990, 12 programs serving 166 school districts had a total of 1,215 "interns-in-training" enrolled. The Texas Education Agency reports that for the 1988-89 school year 16 percent of new teachers in Texas were certified through alternative certification.

Three models of alternative certification programs have emerged from the collection of Texas efforts: a higher education model providing university course work and field-based training in cooperating school districts: a teacher-mentor model providing supervised, field-based experienced for interns; and a local-school district model which uses both university course work and fieldwork to prepare new teachers.

Program Description:

Recruitment. No information about recruitment strategies was available.

Academic Preparation. Participants are prepared (through course work, field-experiences, and special preparatory sessions) to take the Texas certification exam for educators.

Financial Support. No information about financial support of participants was available.

Support Services. No information about support services was available, although many programs seem to be using a teacher-mentor strategy, whereby interns are paired with especially-selected teachers for role modeling and individual guidance.

Program Outcomes:

Intermediate outcomes. The intermediate goal of Texas Alternative Certification programs is to recruit high-quality minority candidates for alternative certification. The 1988-89 cohort of participants were 52 percent minority, comparable to Texas's general population. The evaluation did not provide any other data about recruitment.

Long-term outcomes. The Texas Alternative Certification program aims to increase the supply of minority teachers available to Texas schools over the long-term. The evaluation suggests that the program has been successful in retaining minority teachers who complete the programs but provide no data as evidence except for a survey of participants indicating many of them intend to remain in teaching.

What the evaluation data tell us about program effectiveness. The evaluation suggested the programs have been effective in both recruiting and retaining new minority teachers in the field.

Source: Wale and Irons, 1990; Cornett, 1990

H. Troops to Teachers

Troops to Teachers is a referral and placement assistance program funded by the federal government and is managed by Defense Activity for Nontraditional Support, an agency of the Department of Defense. The program began in January, 1994 as a result of legislation introduced to offset military downsizing. The goals of Troops to Teachers are to give retired or downsized military personnel and DOD civilian employees an entrance into a second career in public education, and to help fill the shortage of public school teachers, particularly in rural and urban areas.

Troops to Teachers currently has 21 state placement assistance offices in states that expressed an interest in attracting former military personnel to teaching. As of September, 1999, over 3,355 participants have been hired as teachers or teacher's aids in 49 states, the District of Columbia, Puerto Rico and DOD schools overseas.

Program Description:

Recruitment. Those interested in academic teaching must hold a baccalaureate degree from an accredited college. Those interested in vocational teaching are not required to have a baccalaureate degree, but must be able to document their skill level and expertise in other ways.

Academic Preparation. No specific academic preparation is undertaken through the Troops to Teachers program. However, state support offices refer participants to alternative certification and other programs where available.

Support Services. The primary function of the program is referral and placement assistance. Defense Activity for Nontraditional Support provides counseling and assistance to help participants identify employment opportunities and teacher certification programs. Participants choose the area in which they want to teach. State support offices assist participants with both certification requirements and employment leads. The state program managers assist individuals with the certification and employment process. The state program managers also seek to form extensive connections and partnerships with their local communities in order to make the transition from troop to teacher an easier one for participants. One way they do this is by reinforcing the image of former military personnel as mature, motivated leaders who provide positive role models for young people.

Another support service available is the Troops to Teacher Web site. The site provides information and resource links to help participants transition to a second career in public education. One feature of the site is mentor connection, a network of Troops to Teachers participants currently working as teachers, who volunteer to answer basic questions about becoming a teacher. The site also includes links to public education job listings, model resumes, and state departments of education.

Program Outcomes:

Intermediate outcomes. The intermediate goal of the Troops to Teachers Program is to assist military and Department of Defense civilian personnel affected by troop reductions to enter new careers in public education. As of September, 1999, 3,355 participants have entered careers in pubic education.

Long-term outcomes. Over the long term, Troops to Teachers seeks to (1) provide positive role models for students in public schools (which they define both in terms of character and in terms of providing more male and minority teachers); (2) relieve teacher shortages in math and science; (3) improve retention in teaching; and (4) improve teacher quality. The evaluation reports that 90 percent of Troops to Teachers participants who enter the classroom are male, compared to 26 percent of the national K-12 teaching force. Similarly, 29 percent of teaching program's alumni are minorities, compared to 13 percent nationally (NCES, 1997). Twenty-nine percent of program teachers report teaching mathematics and 24 percent teaching science compared to 13 percent and 11 percent for teachers nationally. There were no data about retention rates for Troop to Teachers participants in the evaluation. Troops to Teachers alumni self-reported that they planned to teach until they retired (67 percent), and more than half (55 percent) reported they planned to be teaching in five years. There were no data about teacher quality in the evaluation.

What the evaluation data tell us about program effectiveness. The evaluation showed the program has been effective in recruiting former armed forces and civilian employees into teaching. The program was also effective in recruiting minority teachers and teachers of critical science and math fields. Troop to Teachers participants are more likely to be male, and more likely to teach math and science, than non-participants.

Source: Feistritzer, Hill, and Willett 1998; Defense Activity for Nontraditional Education Support (DANTES), 1999—unpublished information packet.

Outcome Data and Program Effectiveness for Local Examples

I. Project Teach

Project Teach (Teacher Education: A Career Headstart), located at LaGuardia Community College in New York City, was developed to recruit community college students for a career in teaching and provide them with educational, personal, and career support and counseling while they complete a pre-education curriculum. The project addressed a need to increase the number of talented individuals teaching in New York City's Public Schools. Established in 1987, by 1990 the program had served 212 community college students.

Program Description:

Recruitment. The project's recruitment efforts focused on LaGuardia credit-accruing students who were interested in teaching as a career. Two main recruitment strategies were employed: 1) the first identified students early in the process in order to insure that their advisement was accurate and appropriate. Entering liberal arts students were notified about Project Teach by mail and those who were interested joined the project before registration and were advised by Project Teach staff; 2) the second strategy identified students already enrolled in classes. Project staff described the project in all Introduction to Social Science and Freshman Seminar classes, both of which served a broad spectrum of students.

Additional recruitment activities involved publicizing the project in adult education career information sessions, which were announced via brochures and flyers targeted at non-credit continuing education students and community members. Another recruitment source was the career counseling seminars offered by the Adult Career Counseling and Resource Center. Adults interested in teaching who attended career counseling workshops were referred to Project Teach staff.

Academic and social support. In keeping with the project's emphasis on early advisement, all Project Teach participants received individual and group counseling services shortly after enrolling. Students were asked to identify the senior college they wanted to attend and the area of education they planned to pursue during initial course advisement sessions. Advisement services included transfer counseling and course selection based on best transferability. Each quarter all students attended an advisement meeting. Students near graduation received assistance in transfer planning.

Participants' progress was monitored each quarter by a counselor, who reviewed all transcripts. Students who were in academic difficulty developed academic advisement plans and participated in academic support programs, tutoring, learning groups and counseling sessions.

Academic preparation. A pre-education career pattern program which was part of the liberal arts curriculum was developed and implemented whereby students progressed through the college's teacher-education-related curricula. Students met on a quarterly basis in study support groups with a group leader who was an education major from Queens College. These learning groups included academic skill development and professional issues. These community college participants were exposed to the programs and atmosphere of a senior teacher education program through visits to Queens College and meetings with the College's School of Education faculty. LaGuardia and Queens Colleges developed a relationship as well as an articulation agreement to help student transfer to Queens College as well as to other four-year institutions.

Program Outcomes:

***Intermediate outcomes*:** An intermediate goal of the project was to enroll at least 125 students; a related goal was to recruit a diverse group of participants. By 1990, the year for which data were reported, the program had enrolled 212 students, or 59 percent over the targeted goal. Of participants, 72 percent were African American or Hispanic, which is a much higher

percentage of minority teachers than is found in the general population (13 percent) (NCES, 1997).

Other intermediate goals concerned academic performance. One intermediate goal, for example was the progression of students through the required course work. Of 131 who began their studies in basic skills courses (not described in the report, but we assume these are the entry level community college courses), 79 (or 61percent) moved through to higher level pre-education courses within a three-year period. A third intermediate goal was the high academic achievement of the project's students. Sixty-eight percent of participants had GPA's of 2.5 or higher. Although Project Teach projected that by the third year, 60 participants would have transferred to a four-year teacher education program, only 45 students actually did.

Long-term outcomes. No long-term outcomes were specified by the program.

What the evaluation data tell us about program effectiveness. 1990 data from Project Teach show that after three years the project was successful in meeting its recruitment goals and, in fact, had actually exceeded its goals. Furthermore, the project had succeeded in recruiting a diverse group of participants. These data suggest that recruitment strategies used by the program are effective. Academic performance data suggest that a majority of students in the program made good progress and attained above average GPAs. This would imply that the support services provided by the program are effective for the population being served. It is not possible, however, to ascertain whether these achievements are above average for students at the community college because no comparison data were given in the report. Our experience with this population of students suggests that the GPA attainment is above average. The transfer rate is lower than that projected by the project so we can infer that Project Teach was not successful in getting participants to transfer to a four-year college at the targeted rate.

Source: Schulman, 1990.

J. The Aide-to-Teacher Project

The Aide-to-Teacher Project is a teacher recruitment and preparation project for culturally diverse paraprofessional classroom aides. It was established at the California State University at Dominguez Hills in 1987 in collaboration with seven local school districts. The program is designed to provide paraprofessionals with the financial, academic and personal support they need to continue employment as classroom aides while completing their undergraduate degree and elementary teaching credential. The program accepts around 50 classroom aides from the participating districts to begin the program each year.

Program Description:

Recruitment. At each cooperating school district a coordinator disseminated an announcement describing the program to all district classroom aides and invited aides to attend

an information meeting conducted by the project director. Applications were distributed at each meeting to those interested in the program.

Financial incentives. Participants received a stipend to cover the costs of student fees and books for the academic year. At the end of Phase II (see below), fellows received financial aid advice on obtaining university, state or federal aid that could be combined with Aide-to Teacher funds to provide a stable and more long-term source of assistance.

Academic preparation. Fellows participated in a four-phase academic program. Phase I focused on providing noncredit pre-university basic skills preparation for two semesters. In Phase II, participants began a one-year academic program of required college-level math and English courses in which they enrolled as a cohort. These courses were specifically designed to serve as a bridge for program fellows into regular upper division course work.

In Phase III, the fellows were integrated into the Liberal Studies undergraduate degree program, an interdisciplinary major designed for those who wish to become elementary school teachers. In Phase IV, the university recommended participants for an internship teaching credential upon completion of the B.A. degree with a liberal studies major and passage of the California Basic Educational Skills test (CBEST). This credential allowed them to teach full-time and simultaneously enroll in a three-semester postbaccalaureate credential program. All course work was offered after school or on Saturdays and classroom teaching performance monitored by university supervisors over two semesters, in lieu of student teaching.

Academic and support networks. A number of academic and support services were offered by the Aide-to-Teacher project. University faculty and staff were selected to serve as mentors to participants, with whom they met on a regular basis for academic advisement and help in adjusting to the university environment. Participants received assistance in preparing for the CBEST by taking a practice examination that helped them assess their strengths and weaknesses. Tutoring was arranged so that they could work on identified weaknesses.

A number of social support activities were also provided by the project. Group social activities were included in Phase II, which were designed to enhance social networking. Family advising sessions were available when needed as well. By Phase III, fellows were encouraged to join the Future Teacher Club in order to develop a supportive social network of peers.

Employment. The seven cooperating school districts in which the Aide-to-Teacher fellows continued to work as instructional aides were committed to hiring them as full-time classroom teachers as soon as they were eligible.

Program Outcomes:

Intermediate outcomes. Based on evaluation data from 1990-91 and 1991-92, intermediate outcomes included the retention of students in Phase I and the progress of students who were in Phases II and III (see description of program components above). Both of these evaluations were more formative than summative in that they focused on factors associated with retention and high progression rates. Based on 1990-91 data, 52 percent of the 48 Phase I

students met the requirements for entering Phase II. (To qualify, students must pass a qualifying exam.) Evaluators found that students who were successful in qualifying for Phase II were more likely to have been born in the United States, to have taken an algebra class prior to entering the Aide-to-Teacher program, and to have someone in the family already planning to complete a degree. The evaluation gives no indication as to whether a 52 percent rate in transitioning from Phase I to II can be considered "successful" or not.

Data from the 1991-92 evaluation show that of the 131 students who originally started in the Aide-to-Teacher program, 113 remain, for an attrition rate of 14 percent over a five-year period. (The evaluation does not mention the number who have completed, so we assume that none has yet completed the program.) Although no comparison data were collected, this attrition rate, especially for the population served, seems low. 1991-92 data also give the class standing and grade point averages of all students remaining in the program, showing that 60 percent had progressed to junior and senior standing. Average GPA for all students was 2.80.

Long-term outcomes. Long-term outcomes were not measured by the evaluations, although the evaluator recommended that follow-up evaluations be made of students who enter the teacher profession to gauge the long term effects of the program.

What the data tell us about program effectiveness. The data collected by the two evaluations that we reviewed measure only intermediate outcomes. The low attrition and healthy progression rates suggest that the support services and academic preparation provided by the program are effective in retaining and facilitating the progress of participants. This is supported by the above average grade point average for Aide-to-Teacher students. The absence of comparison data makes it difficult for us to conclude with certainty that this is the case, but we feel comfortable in saying that the evaluation data suggest that the strategies used by the program are effective for encouraging retention and progress.

Source: Warshaw, 1992.

K. Dewitt Wallace–Reader's Digest Fund Pathways to Teaching Careers Program

The Dewitt Wallace–Reader's Digest Fund Pathways to Teaching Careers Program is a teacher recruitment and preparation program located at 42 sites nationwide. It was established by the DeWitt Wallace–Reader's Digest Fund in 1989 at a handful of colleges in New York City and, a few years later, had expanded to 42 sites, representing an investment of $50 million by the Fund in 1998. The Pathways model is designed to provide participants—who include paraprofessionals, emergency-certified or substitute teachers, and returned Peace Corps volunteers—with financial, academic and personal support as they complete the requirements for full teaching certification. Pathways has served close to 3,000 participants and, thus far, has been evaluated during a four-year period (1994-98).

Program Description:

Recruitment and selection. School districts play a prominent role in recruitment, often taking the lead in identifying and attracting applicants to the program via mailings; announcements in district newsletters, local newspapers, radio and television; introductory meetings of district personnel to publicize the program; and posters in schools and community associations.

Selection procedures are often carried out by a selection committee that involves district personnel, faculty at the partner Institution of Higher Education (IHE), community members, principals, and others. Individual programs have developed their own specific criteria for selection, but most require that participants be accepted into the teacher education program. Applicants must also show commitment to teaching and, in the case of some programs, a desire to teach in an urban setting. In addition to criteria such as grade point average, test scores, and letters of recommendation, selection decisions are based on interviews and writing samples.

Financial incentives. Pathways participants receive two-thirds to 100 percent of their tuition. Some programs also provide stipends for the purchase of books and other education related expenses.

Academic and social support. All programs offer a range of academic and social support services to meet the needs of the different target populations served. Most programs offer orientation, academic advisement, tutoring, assistance with study and test-taking skills, monitoring of student progress, child care, cohort support networks, family support programs, supervised teaching experiences, and mentoring.

Academic preparation. For the most part, Pathways participants must complete the same course requirements expected of any teacher education student at the partner IHEs. In most cases, some courses have been tailored to meet the needs of Pathways students. These revisions include emphasizing the application of theory and incorporating more hands-on activities; inclusion of topics of interest to the urban teacher in courses (e.g., family violence, juvenile delinquency, families in poverty); addition of multicultural aspects of pedagogy; and other revisions.

Program Outcomes:

Intermediate outcomes: Intermediate outcomes specified by the Pathways evaluation included meeting the targeted numerical recruitment goals. By the end of the fourth year of the evaluation, Pathways programs had exceeded their target goals by 115 participants, or 20 percent. The second intermediate outcome was the representation among Pathways enrollees of a high percentage of persons of color. By the fourth year of the evaluation, 75 percent of participants were from racial or ethnic minority groups compared to the national representation of 13 percent minorities in the teaching force (NCES, 1997). The third intermediate outcome was the retention of Pathways students in the teacher education program. At the fourth year mark, the first three cohorts (participants who entered from 1989 through 1992) had a completion rate of 80 percent, which exceeds the national completion rate of 60 percent

(National Commission on Teaching and America's Future, 1996) and is significant at the .01 level.

Long-term outcomes: Because the program and the evaluation still have two years to go, the measurement of long-term outcomes has not been completed. These long-term outcomes include measures of completion of certification requirements, placement in teaching, teaching effectiveness, and retention in teaching. Data have been collected on effectiveness in teaching for participants who have been in teaching for two years after certification. These data, in the form of principals' ratings for 427 Pathways teachers on different aspects of teaching, show that compared to other novice teachers in their schools, Pathways teachers received an average rating of 4.3 on a five-point scale where 1 is lowest and 5 is highest, when average performance would be 3.0.

What the evaluation data tell us about program effectiveness: Evaluation data collected by the Pathways evaluation show that the program has been effective in recruiting and selecting participants. The program has met and exceeded its recruitment goals and is able to show a retention rate that is significantly higher than the national rate of retention in a teacher education program. Furthermore, the percentage of minority participants that Pathways has been able to recruit far exceeds the representation of minorities in the teaching force. The high retention and completion rate also indicates that the program's supportive strategies have been effective.

It is still too soon to predict how well the program will do in meeting its longer-term goals such as placement in teaching, retention in the teaching force, and completion of certification requirements. Data to be collected in the fifth and sixth years will determine the program's success in meeting these goals. There is some limited evidence—in the form of principals' ratings and results of a performance assessment—that Pathways graduates are effective teachers. This suggests that the system of support and preparation provided by the programs has been successful.

Source: Clewell et al., 1997.

L. Eleven-University Consortium

An eleven university consortium, whose members include the teacher preparation program from Austin College, Drake University, University of Florida, University of Kansas, University of Nebraska, University of New Hampshire, Oakland University, Texas A & M University, University of Virginia, University of Rhode Island, and University of Vermont, formed in 1990 to promote innovations in teacher education. Key strategies included extended or five-year programs, increased liberal arts course work, and increased clinical experience. The members also shared an interest in the follow-up of graduates of their programs to gain evidence of the performance of their students and the effectiveness of their programs.

Program Description:

Because, with the exception of the above key strategies, the individual colleges had different characteristics and activities, it is not feasible to aggregate information on components across colleges. Unfortunately, the key strategies are not described in any detail in the *Action in Teacher Education* journal article from which this information was gathered. So few details are known about the strategies themselves. The article did, however, contain a good description of the outcome assessment that was conducted using data for all eleven members of the consortium.

Description of Outcome Assessment

The outcome assessment focused on two basic goals of teacher education: to place "good teachers" in classrooms, "good teachers" being defined as teachers whose performance is judged positively by the people who run the schools; and to produce teachers who actively participate to improve instruction and improve the schools. Four indicators were developed to assess program success in achieving these goals: 1) entry into the profession, 2) retention in the profession, 3) classroom performance, and 4) leadership behavior.

Research questions of interest were as follows:

What are the performance levels of teacher education graduates from the eleven institutions between 1985 and 1990 as measured by entrance into the profession (taught at least one year), retention, general assessment of teaching effectiveness, and leadership behaviors?

Are there differences in performance levels of graduates of four-year and extended programs as measured by the above four indicators?

Each institution identified a random sample of 300 graduates from the years 1985 to 1990 and those with fewer than 300 graduates surveyed the total population. A survey of graduates was returned by 1,430 graduates (1,390 were usable for analysis), representing an overall 48 percent rate of return. Six-hundred and eighty-seven graduates who were teaching (70 percent of total teaching) gave permission for the team to contact their principals and Teacher Effectiveness Surveys were distributed to 687 principals, 481 of whom returned them for a 70 percent rate of return.

Program Outcomes:

Intermediate outcomes. Evaluation data show that 83 percent of the entire sample entered teaching and reported teaching for at least one year. This compares well to national data that show most preservice programs reporting a 60 percent entry into teaching (Coley & Thorpe, 1986; Feistritzer, 1983).

When five-year programs were compared with four-year programs, the evaluation found a significant difference (p .001)[44] in entry rates, with 90 percent for extended program graduates versus 80 percent for four-year graduates.

Long-term outcomes. One long-term outcome was the retention of graduates in the teaching profession. Evaluation data show that 84 percent of those who entered teaching are still teaching (70percent of the total sample) and that the mean years of teaching is 2.7. Because the sample consisted of graduates from 1985-1990, this limited the number of years that retention could be measured to between one and five. The evaluators make the case that studies of retention on the national level show high attrition rates for teachers, with most attrition taking place in the first two years of teaching. The evaluators also cite studies that have shown as much as 60 percent attrition within five years of entry (Charters, 1970; Geer, 1966; Mark & Anderson, 1977) and conclude that given the tight job market and other factors, their results show a surprising low attrition rate. We find the evidence as presented by the evaluators to be inconclusive, although it is probable that if they had disaggregated the data to show retention at the two and five-year mark and had compared this to national retention rates, the data would show low attrition.

A significant difference was also found in the percentage of those remaining in teaching when comparing graduates of four-year and five-year programs (p .001) Eighty-seven percent of five-year graduates remained in teaching as compared with 78 percent of four-year graduates.

Classroom performance of graduates was another long-term outcome measured by the evaluation. Principals were asked to rate graduates' performance as teachers "compared to teachers of similar teaching experience." According to the evaluators, principals assigned 88 percent of all graduates to the top two performance quartiles (59 percent for the 1st quartile, 29 percent for the 2nd quartile, 11 percent to the 3rd, and .1 percent to the 4th). Principals also used a five-point scale to rate teachers' performance on 35 items describing generally accepted teaching competencies and attitudes related to good teaching (not specified in the article). Ratings show that in only six of the 35 items were less than 75 percent of the graduates rated below high or very high (four or five) on the five-point scale. These data provided limited evidence of teaching effectiveness of graduates of the consortium member colleges.

No significant differences were found in principals' ratings of teacher effectiveness between graduates of the two types of programs.

Leadership behaviors were rated by principals in their survey, with the mean score on the leadership factor being considerably lower than instructional or interpersonal scores. The leadership mean was 3.9 compared with the interpersonal mean of 4.3 and an instructional mean of 4.2. The evaluators state that it would be not be reasonable to expect leadership behaviors from beginning teachers and felt that leadership behaviors would increase after the first few years of teaching. They tested this assumption by comparing leadership items on the graduate questionnaire for graduates with one to three years of teaching and those with four or more years of teaching. They found significance (p .05) on 17 of the 20 leadership items, with 15 of the 17

[44] The difference detected is more than expected through random chance. The numeric value is a statistical representation of the amount of difference (refer to the supplemental statistical reference list for more information).

being significant at the p .01 level, suggesting that after three years of teaching, leadership behaviors increased significantly.

Although no significant differences were found in the principals' survey between four-year and extended program graduates, several significant differences emerged between the two groups on the survey of graduates. Significantly more four-year program graduates had moved partially or wholly out of the classroom and into some kind of administrative or nonteaching position (p .01). Extended program graduates showed significantly higher leadership scores on three variables (p. 05): serving as committee heads, serving as workshop presents, and taking on professional leadership responsibilities beyond their school.

What the evaluation data tell us about program effectiveness. Because the data come from 11 institutions that represent great program variation, it is difficult to make generalizations about most effective practices. Data do indicate that graduates of extended programs outperform their four-year counterparts in terms of rates of entry into teaching, retention in teaching, and some leadership behaviors.

Source: Andrew and Schwab, 1995.

M. Houston Independent School District Alternative Certification Program

In 1984 the Texas Legislature approved a bill that allowed the Texas State Board of Education to provide for the certification of persons with a bachelor's degree who are not graduates of teacher education programs, thus authorizing the development of alternative certification programs around the state.

The Houston Independent School District Alternative Certification Program was first used in 1985. Its two main objectives are to fill critical teacher shortages and to provide an alternative route to certification. As of 1999 the program accepts and trains interns in the areas of bilingual education, english as a second language, elementary education, secondary mathematics, science, Spanish, English, and special education.

The Houston program was developed through a collaborative partnership with the school districts, Region IV Educational Service Center (ESC), the University of St. Thomas, and Teach for America. After undergoing training prescribed by the distr (described below), interns must obtain satisfactory ratings on the state-adopted Professional Development Appraisal System, an assessment conducted by building administrators. Upon completion of the first school year, the principal and the program director jointly decide whether the intern should be certified, placed on a one-year extended status, or dismissed from the program. Since its inception the program has trained and certified more than 3,500 individuals as teachers, librarians and bilingual educational practitioners.

Program Description:

Recruitment and selection. The program places advertisements in newspapers, on television public service announcements, and radio. The Houston Alternative Certification Program is also publicized through the district's Administrative Bulletins and in memos to principals. Informational meetings are held for interested individuals.

Entry requirements for intern candidates include a bachelor degree with a grade point average of 2.5 on a 4.0 system. The candidate must also demonstrate minimum basic skills on the Texas Academic Skills Program. In addition, candidates must have a 2.5 grade point average on a 4.0 scale in the required 24 semester hours in their certification area. Applications are reviewed by the Office of Staffing in Houston Independent District and applicants who are deemed eligible are interviewed using the Gallup Urban Teacher Perceiver.

Support services. Throughout the school year, program interns are closely supervised and counseled through the efforts of an assigned program specialist, a mentor teacher, and the building principal. Mentors are selected by the principal and must complete 12 hours of mentor training. Mentors are usually experienced, certified teachers in the same subject area and the same level for which the intern is to be certified. The program provides a monitoring system that helps program staff to assist interns in meeting required benchmarks at various points in the training process. The monitoring system involves computer tracking, mid-year reviews, and reviews of test scores. Upon the identification of problems, support and assistance are immediately provided.

Interns receive a great deal of support and assistance in test preparation. The program provides mandatory tutorials to interns who fail required tests, includes test-taking skills in review sessions, assists interns in scheduling required tests so that they do not overload their schedules, and disseminates materials and information relating to testing success.

Academic preparation. Before being placed in a teaching assignment, interns received 73 hours of training from district personnel, including one week of field experiences observing master teachers in the classroom. In addition, interns must complete six to nine semester hours of university course work provided by the University of St. Thomas.

After placement, interns must complete another six to nine semester hours from the University of St. Thomas and 36 clock hours of district training. They must develop portfolio projects, including videos, thematic units, projects related to their school improvement plan, and all of the state proficiencies. They also have release time once a month in which to participate in professional development opportunities.

Program Outcomes:

Intermediate outcomes. Data reported in a three-year evaluation completed in 1999 have been used to determine outcomes data. Since 1986, the program has trained and certified 3,500 teachers and other education workers. The minority and male representation in the pool of

interns (15 percent African American and 22.4 percent Hispanic and 30 percent male) is higher than that of the national pool of teachers (13 percent minority and 27 percent male [NCES, 1997]). Although the program did not have a recruitment goal or a minority enrollment goal, it is evident that the program is recruiting and certifying a large number of teachers in shortage areas and that a larger than usual proportion of them are minorities.

For 1998, scores of interns on the certification exam, Examination for the Certification of Educators in Texas (ExCET), were compared to those of teacher candidates from Texas teacher preparation programs (first-time test takers). The data showing that Houston Independent School District interns rank 23 out of 62 lead us to conclude that the interns are generally performing better than over half of the students from conventional programs and that minority groups are outperforming more than two-thirds of the minority students in those programs. (Data also show African American and Hispanic interns ranking 10 and 13, respectively, out of 62.)

Long-term outcomes. The evaluation also compared the performance of The Houston Independent School District Alternative Certification Program interns in the classroom after the first year of teaching with that of other program first-year teachers. The means and standard deviations of the scores of both groups on the Professional Development Appraisal System, a formal teacher appraisal instrument, were compared for a randomly selected sample of 200 (out of 720) program first-year interns and a randomly selected sample of 200 non-program first-year interns in 1998. No significant differences were found between the two sets of ratings.

The evaluation also reports a retention in teaching rate of 85 percent for the Houston Independent School District Alternative Certification Program interns, but no time frame has been given so it is difficult to interpret this statistic.

What the evaluation data tell us about program effectiveness. The recruitment strategies used by the program seem to be effective because the program is able to recruit and enroll a large number of interns who fit the required profile. Unfortunately, the retention rate through completion at the end of the first year is not known from the evaluation and thus the effectiveness of the eligibility criteria and the selection process cannot be determined. The data do tell us, however, that the combination of the eligibility criteria, support services and academic preparation are effective in producing teacher candidates whose performance as a group on the teacher certification exam ranks 23 out of 62 when compared with teacher candidates from conventional teacher preparation programs in the state. For minority interns, the advantage produced by the program is even higher when compared with the conventional teacher preparation programs.

The evaluation data also show that the support and preparation provided by the program produces first-year teachers who perform as well as other first-year teachers in the district. Unfortunately, because retention of both groups during the first year is not known, it is not possible to ascertain whether this is an effect of the program support and preparation.

Source: Morgan, 1998; Morgan, 1999—in press.

N. Los Angeles Unified School District Intern Program

In response to growing concerns about the chronic teacher shortage in the urban districts of southern California, the California State Legislature in 1983 included a teacher trainee provision as part of the Hughes-Hart Education Reform Bill. This legislation allowed school districts that can verify teacher shortages to hire uncertified individuals as secondary school teachers and to offer a training program through which they can become licensed. Participating school districts would have to create and run a two- to three-year program of professional training and provide the intern with the support of a mentor teacher. In 1987 the California legislature authorized expansion of the program to include elementary and bilingual teachers and renamed it the District Intern Program.

In 1984, the Los Angeles Unified School District initiated a District Intern Program designed to recruit academically competent individuals in areas of subject matter shortage to teach in hard-to-staff schools. Originally developed to recruit secondary English, mathematics, and science teachers, the program was extended to include elementary and bilingual education teachers in 1988. Since 1984, the Los Angeles district has recruited and trained 1,100 novice teachers, approximately 96 percent of the alternative route candidates trained in California.

Program Description:

Recruitment and selection. Recruitment efforts are not specified in article. Individuals who are considered for internships must have a baccalaureate degree with 20 units in a subject matter major, pass a state-approved exam in the subject area to be taught, and pass the California Basic Educational Skills Test (CBEST).

Support services. The program provides mentoring support for two years from a mentor teacher who is paid a stipend and given 23 days release time per year to work with interns, during which a substitute is assigned to their classrooms. Mentors are selected through an elaborate screening process and must attend a training program. Wherever possible, mentors work in the same school and same subject area as the intern.

Academic preparation. Interns attend a 15-day preservice training program that consists of a series of seminars and two days of observation at a school. Secondary students are grouped by subject matter specialty and elementary students into regular or bilingual groups. This training program is explicitly focused on inducting interns into the district and focuses on 1) procedural knowledge, including regulations and procedures of the district, 2) subject matter content prescribed by the state and district, 3) the district's approach to organizing and planning instruction, 4) survival skills.

Interns participate in a year-round program for two years. This program consists of two-hour training sessions every Thursday afternoon in one of three regional training centers. Each 16-hour module is regarded as equivalent to one college unit and earns the intern a one-point advancement toward salary. There is a strong focus on multicultural education in the course work. At the beginning of each session, interns meet as a group with a program supervisor to discuss problems and issues that have emerged in their teaching during the week. Because they

spend two years as a cohort, interns tend to form a support group that helps them deal with the stresses of teaching.

Program Outcomes:

Intermediate outcomes. One of the main goals of the program is to recruit competent individuals to teach specific subjects in hard-to-staff schools. In the last six years (1984 to 1990), the program has recruited 1,100 new teachers into the district, with the intern program now training about 300 new teachers per year. This number is equivalent to one of the smaller California State University campuses (Morey, 1983). Although the article does not specify a numerical recruitment goal for the program, the number of teachers it has been able to recruit is large; many of them are prepared to teach in shortage areas such as math, science, and bilingual education; and they have been placed in hard-to-staff schools. For example, the proportion of all new teachers in the district's hard to staff schools (called "priority staff programs" or PSP) who were district interns increased from 5.3 percent in 1987-88 to 18.5 percent in 1989-90. During the same period the proportion of emergency certified teachers hired into PSP schools declined from 43 percent to 32 percent.

The program has been able to reduce the number of marginally qualified emergency credential teachers working in the district. Among all district teachers recruited, the percentage in the intern program increased from 3.7 percent in 1987-88 to 11.4 percent in 1989-90. At the same time, the percentage of new teachers who had emergency credentials decreased from 47 percent to 34 percent, but the percentage of college-trained teachers with clear teaching credentials remained constant—between 34 and 36 percent.

The Los Angeles Unified School District interns are well prepared academically in the subject areas in which they teach. Three variables were used to assess subject matter preparation: number of courses taken in the academic major, grade point average (GPA) in the academic major, and institution attended. The majority of district secondary interns have substantial preparation in the academic disciplines they teach: 52 percent of the mathematics interns, 83 percent of English interns, and 84 percent of science interns completed at least twice the number of units required (20 semesters or 30 quarter units are required by the district). GPAs of the secondary interns compare favorably to those of the college-based teacher education population: 65 percent of science interns, 61 percent of English interns, and 39 percent of mathematics interns have GPAs of 3.25 or higher on a four-point scale in their subject area specialty and only 9 percent of interns have GPAs below 2.75. National statistics for teachers who qualified in 1987 show that 48 percent had GPAs of 3.25 or higher and 14.5 percent had GPAs below 2.75 (NCES, 1990a). Forty-five percent of the interns graduated from University of California campuses; 27 percent graduated from California State University campuses and the remaining 28 percent attended comparable institutions.

Long-term outcomes. Attrition for interns in the first three years of teaching is lower than that shown for a national sample. For example, retention rates as of 1990-91 for Cohorts IV (1987-88), V (1988-89), and VI (1989-90) are 18, 7 and 2 percent, respectively. National data indicate that 40 percent of teachers left teaching after three years (Schlechty & Vance, 1983) and

only 61 percent of newly qualified teachers who received their degrees in 1985-86 were teaching in 1987 (NCES, 1990a).

What the evaluation data tell us about program effectiveness. The program's recruitment and selection strategies seem to be effective, because the program has been able to recruit large numbers of district interns who meet the required characteristics. Unfortunately, recruitment and selection strategies were not described in the article. Selection criteria, however, were provided and these seem to have yielded success in enrolling participants who have remained in the district for at least three years. The preparation and support of the interns provided by the program have also proven effective as evidenced by the high attrition rate during the first three years.

The district's intern program has been effective in meeting its goal of recruiting academically competent individuals in subject matter shortage areas to teach in hard-to-staff schools. This is evident from the data showing the decrease in the percentage of emergency-certified teachers (while the percentage of district interns increased and the supply of college-trained teachers remained the same). The data also show that the interns are well prepared academically in their subject areas.

Source: Stoddart, 1990.

O. Teach for America

Teach for America is a national program whose stated mission is to build a diverse corps of recent college graduates of all academic majors who commit two years to teaching students in under-resourced urban and rural public schools. The program, which began in 1989, selects 500 new corps members a year to undergo a five-week intensive training session in the summer. At the conclusion of the summer session the new corps are hired as regular beginning teachers at one of several sites around the nation. At each site, local program offices help orient corps members to their new communities and coordinate a support network. Beyond their two-year commitment, corps members remain connected through an alumni association. Since its inception, the program has placed almost 5,000 individuals in teaching positions in 13 geographic areas.

Program Description:

Recruitment and selection. One hundred campus representatives on each of Teach for America's target 100 colleges and universities head local chapters that involve other campus leaders. These chapters plan and run informational sessions and presentations, distribute information and flyers, advertise in newspapers and other media, and otherwise publicize the program. A Teach for America day is held once a year on each campus, and campuses host students from local public schools for a day of educational events.

A three-stage selection process is followed during which a team of 12 trained recruiters travel from campus to campus to meet and evaluate all candidates on the basis of a written application, a standard-format interview, and a practice teaching session.

Support services. All corps members participate in an eight-week intensive training institute during the summer. The institute runs for 15 hours per day, six days a week. Corps members student teach under the supervision of institute faculty and participate in discussion groups, classes, workshops and other professional development activities. Those who complete the institute are placed in a high-need urban or rural school where they receive support from local Teach for America offices in the form of orientation sessions, monthly meetings and newsletters, and annual interregional conferences. Support of the school principal and a mentor teacher to provide information and advice is also available to each corps member. An attempt is made to place corps members in schools with other corps members or alumni so that they can provide support. Corps members also receive a deferment of their student loans.

Academic preparation. The training institute provides training in teaching strategies, classroom management, and curriculum development. Current issues in education and the social context of schools are discussed. Three overarching themes—professionalism, reflection, and multiculturalism—characterize the institute's instructional offerings.

Program Outcomes:

Intermediate outcomes. Based on data provided by the program for 1996, 1997, 1998, and 1999, the program has placed 2,317 teachers, which is more than the recruitment goal of 2,000 teachers (at 500 per year over four years). Graduating corps members in these years had an average GPA of 3.4 and an average combined SAT score of 1,205. This is in keeping with the program's goal of recruiting high-achieving college students. The relatively high percentage of graduating corps members (35 percent) who report that they are racial or ethnic minorities also is in keeping with a program goal of recruiting minority individuals.

Long-term outcomes. The program reported that in 1996 and 1997, the percentage of corps members who completed their two-year commitment as teachers was 88 percent and 89 percent, respectively. A July 1999 evaluation conducted by an external evaluator involved interviews and mail surveys of 434 principals (response rate 67 percent) who had corps members in their schools. (The evaluation did not specify which cohorts were being rated.) The evaluation reports that 77 percent of principals rate corps members' overall effect on students as better than that of other beginning teachers with whom they have worked; 90 percent of principals feel that corps members have had a positive effect on students overall as well as on their academic achievement; 96 percent think that the net result of corps members' presence has been advantageous for schools and students; and 92 percent would hire another corps member given the opportunity to do so.

One of the program's goals is to produce teachers with leadership potential. The program collected information on this outcome via year-end surveys of the corps members in the spring of 1999. These surveys revealed that 82 percent had been involved with one or more

extracurricular activities in their schools and 60 percent reported that they had led one or more extracurricular activities in their schools.

What the data tell us about program effectiveness. The program's recruitment and selection strategies seem to be effective in attracting and enrolling the targeted population. The program is able to meet its recruitment goal and to attract the type of students that the program wishes to enroll. The minority enrollment, which is three times as high as the representation of minorities in the teaching force (13 percent) (NCES, 1997), also provides evidence of the program's effectiveness in recruitment and selection.

The completion rate (of the two-year commitment) of 88 and 89 percent attests to the efficacy of the training and support provided by the program, at least for the short term. The principals' ratings of corps members effectiveness is problematic because the evaluation does not specify how the sample of 434 principals was chosen. The leadership data present a similar problem in that it is not clear how the survey sample was chosen (how many corps members, what cohorts, etc.) and what response rate was received.

Source: Kane, Parsons and Associates, Inc., 1999—unpublished evaluation report; Teach for America Impact Measures, undated.

P. Teachers for Chicago

Teachers for Chicago works with the Chicago Teachers Union, nine public and private colleges and universities and several foundations in the Chicago metropolitan area to recruit, educate and train new teachers for the Chicago schools. The program targets individuals with no teaching experience and at least a baccalaureate degree in a noneducation field, especially those who work in science, math, and business or have skills in bilingual and special education. Established in 1992, the program has enrolled more than 300 participants in the first three years.

Program Description:

Recruitment and Selection. The program advertised in local newspapers and at participating colleges and universities. Because the program wished to select only teachers who were suited to work in urban classrooms, the interview and applications process was an important component. The program used an interview technique developed by Martin Haberman called "The Urban Teacher Interview Selection Process." This interview identified individuals who would make good urban teachers by assessing their persistence, ability to adapt and be flexible, ability to learn from mistakes, and willingness to try new ways of doing things. Candidates had to be accepted into one of the nine participating universities and maintain a minimum grade point average of 2.5.

Financial incentives. Participants received funding from the Chicago public schools to earn a master's degree in education at a participating university. The candidates promised to

teach in Chicago schools for two years after completing an internship. Because the interns received about half the salary of a regular teacher, the remaining salary went to cover tuition administrative overload.

Internship. While attending a teacher education master's program, participants worked as interns in Chicago public schools at substitute teacher rates for two years under the supervision of a mentor teacher.

Mentoring. Teachers for Chicago provided mentoring support for participants in the classroom. Mentors, who were high school and elementary school teachers with a master's degree, had a teaching certificate for the position they would be mentoring, a record of course work that demonstrated efforts to improve professional skills, and a commitment to at least two years of service as a mentor. The program trained mentors via a mentor-training workshop and relieved them of classroom duties so that they could devote all of their time to assisting the interns. Mentors, who typically worked with four interns each, advised them on classroom strategies, paperwork, lesson plans, and interactions with administrators and parents. They conducted formal observations and demonstrate effective instructional techniques in the interns' classrooms.

Academic preparation. Participants completed a master's program according to the requirements of whichever of the nine participating universities in which they were enrolled.

Program Outcomes:

Intermediate outcomes. Teachers for Chicago's intermediate goals included a high rate of recruitment and a low rate of attrition from the program. The program targeted 100 participants a year and, during a seven-year period enrolled more than 700, thus exceeding its targeted goal. The program also reported high minority enrollments, which was viewed as positive, although no data on the actual percentage of minority enrollees was given and no specific percentage of minorities was targeted for recruitment.

Long-term outcomes. The program saw a long-term goal the retention of program graduates as teachers in Chicago Public Schools. According to data collected in 1999, of the program's first two cohorts (1992-1994), 72 percent were still teaching in the Chicago Public School system. Therefore, of these two cohorts, 72 percent had been retained in teaching for either six or seven years. Although the report provided no comparison data, this is higher than reported by studies at the national level that show as much as 60 percent attrition after five years (Andrew and Schwab, 1995).

A second long-term outcome of the program was the completion of a master's degree by participants. Of the 127 participants in cohorts one and two, 87.4 percent had completed their master's degree. The program had not set a target for completion and there were no other data to which to compare this outcome. Although the evaluation was to have included student achievement data, none were provided as a measure of graduates' teaching effectiveness.

What the evaluation data tell us about program effectiveness. The data provided in the program's evaluation report and articles suggest that the program has been successful in recruiting sufficient participants with desirable characteristics, such as minority status and selecting those who are capable of completing the program without dropping out. Long-term outcome data also show that the retention rate of the first two cohorts as teachers in the Chicago Public Schools exceeds the national five-year retention rate of teachers. This indicates that the program's selection strategy is successful in choosing individuals who will remain in teaching in an urban school setting. The retention in teaching data also suggest that the preparation and support, which includes financial incentives, internships and mentorships, provided by the program is effective in helping teachers stay in difficult urban classroom settings.

Source: Kamin, 1999—unpublished evaluation report; Chesek, 1998—unpublished status report; Gallegos, 1995a; Gallegos, 1995b.

Q. Loan Forgiveness Program

The Loan Forgiveness Program was designed to recruit bilingual individuals in shortage areas in New York City public schools: special education, school social work, educational evaluation, speech and hearing handicapped, school psychology, guidance and counseling, physical therapy, and occupational therapy. The program provides reimbursement of student loans to eligible bilingual individuals who meet the New York state teacher certification requirements. In exchange, all participants are expected to complete ten months of satisfactory employment with the board of education in a designated shortage area for each $2,500 of tuition assistance received. In exchange for their loan payment, each participant must sign a contract promising one year of service for every year of loan forgiving.

An evaluation of the program, which was mainly formative, was undertaken in 1993. Seventeen surveys were sent to participants of which nine were completed, for a response rate of 56 percent. There was no indication in the report as to the total number of participants served by the program or how long the program had been in existence.

Program Description:

Recruitment. Though not explicitly described in the evaluation report, some information about recruitment methods can be gleaned from participants' responses as to how they heard about the program. Participants responded that the major sources of information about the program were: advertisements, brochures issued by the board of education, and teachers or board of education employees.

Program requirements. Candidates were required to have U.S. citizenship or permanent residency, not be current employees of the board of education, and possess the minimum qualifications to be eligible to receive provisional New York state teacher certification and apply for a New York City license in one of the disciplines mentioned above. Upon approval, the

candidates must apply for and receive one of these certificates prior to the fall semester following their acceptance into the program. The candidates must also demonstrate bilingual proficiency by either passing a state-approved exam or by providing evidence of bilingual certification.

Program Outcomes:

Intermediate outcomes. It is unclear how many participants were recruited by the program or if the program had met its recruitment goal. Recruitment strategies, therefore, cannot be assessed for effectiveness. All of the respondents to the survey, however, are still working in the New York Public School System, none experienced any problems being hired, and all expect to be rehired in the coming year

Long-term outcomes. No data on long-term outcomes were collected.

What the evaluation data tell us about program effectiveness. Little can be learned about program effectiveness from the evaluation data because of the absence of critical information such as time period for retention, total number of participants, and targeted recruitment goals.

Source: Mateu-Gelabert, 1993.

R. Scholarship Program in New York City

The scholarship program in New York City was created to provide full tuition reimbursement to students pursuing study toward the New York Certification in various shortage areas. In exchange, participants in the program committed to work in the New York City Public School System for one school year for every twelve credits that they received. During the 1992-93 school years, evaluators assessed the effectiveness of the program in terms of recruitment, training, and other aspects. Although the evaluation was primarily formative, some summative data were collected. Although the evaluation does not specify how many participants were served by the program within what period of time, questionnaires were sent to 523 individuals.

Program Description:

Recruitment. The program targeted individuals accepted as degree students by a participating college or university in a program approved by the New York State Education Department. Thirty-one colleges and universities in the New York City area participated in the Scholarship Program. To be considered, applicants had to be pursuing graduate study toward New York state certification in various shortage areas, including bilingual education. Candidates also had to be permanent residents or citizens of the United States, and bilingual applicants had to demonstrate proficiency in a targeted language other than English.

The evaluation report did not describe recruitment practices, but responses to the survey provide some idea of the main strategies used. For example, the major sources of information about the program, according to survey respondents included: the Scholarship Program coordinator, teachers or Board of Education employees, Board of Education brochures or circulars, Office of Recruitment personnel, non-board of education advertisements, and professors or advisors at participating institutions.

Other services. No description was provided in the report regarding additional services. Because participants attended a variety of colleges and universities, most of the services received were specific to the institutions attended. No description of the scholarship services were given although participants gave high ratings to these services. The evaluation implied that the program placed participants in hard-to-staff schools, but no description was given regarding the process.

Program requirements: Participants had to have been continuously enrolled in an academic program to have agreed to take at least 12 credits per school year. In exchange for tuition assistance, each participant had to sign a contract indicating that he or she would provide a required number of years of service in a special education setting within the New York City public school system once they obtained their certificate. As mentioned above, a minimum of one school year of service was required for each 12 credits and those with more than 12 credits were required to give two years of service for each they were enrolled in the program. Hard-to-staff districts and license areas were given priority during placement.

Program Outcomes:

Intermediate outcomes. The evaluation concluded that because most of the participants of the program were women of various ethnic backgrounds who spoke different languages the recruiting techniques targeting minority women were successful (there was no indication earlier in the report that the program targeted minority women). Of the respondents to the survey (208 out of 523, a response rate of 41 percent), however, 72 percent were female and 63 percent were minority. No data were given on attrition from the program, although it was found that most participants (67 percent) had not yet completed the Scholarship Program at the time of the evaluation.

Long-term outcomes. Of the 69 participants who had completed the program, 47 (or 68percent) still had positions in New York City public schools. It is difficult to link this statistic to program success or failure in the absence of comparisons data or a time period.

What the evaluation data tell us about program effectiveness. Because the evaluation seemed to be focused on collecting formative data primarily, little could be learned regarding effectiveness of the program. The major finding was that the recruitment strategies seemed to be effective in attracting the profile of participant that the program was targeting.

Source: Manzo, et al., 1994.